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MANAGEMENT ACTION PLAN FOR RICHARDS GEBUR AIR FORCE BASE KANSAS CITY
MO
10/19/1993
RICHARDS GEBUR AIR FORCE BASE



**Management Action Plan (MAP)
Richards-Gebaur Air Force Base
Kansas City, Missouri**

19 October 1993

List of Acronyms

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AAFES	Army and Air Force Exchange Service
ACL	alternative concentration limit
ACM	asbestos-containing material
ADC	Air Defense Command
AFB	Air Force Base
AFBCA	Air Force Base Conversion Agency
AFCS	Air Force Communications Service
AFGE	American Federation of Government Employees
AFRES	Air Force Reserve
ANSC	Area of No Suspected Contamination
AOC	Area of Concern
ARAR	applicable or relevant and appropriate requirements
BCP	Base Realignment and Closure (BRAC) Cleanup Plan
BCRP	Base Comprehensive Reuse Plan
BRAC	Base Realignment and Closure
BX	Base Exchange
CERCLA	Comprehensive Environmental Restoration, Compensation and Liability Act, as amended
COE	Corps of Engineers
CRP	Community Relations Plan
DD	Decision Document
DERP	Defense Environmental Restoration Program
DQO	data quality objectives
DRMO	Defense Reutilization and Marketing Office
DSMOA	Defense-State Memorandum of Agreement
EBS	Environmental Baseline Survey
EIAP	environmental impact analysis process
EIS	Environmental Impact Statement
FFA	Federal Facility Agreement
FS	feasibility study
FUDS	formerly used defense sites
FY	fiscal year
GSA	General Services Administration
IAP	Initial Accumulation Points
IRA	Interim Removal Action
IRP	Installation Restoration Program
IRPIMS	Installation Restoration Program Information Management System
MAC	Military Airlift Command
MDNR	Missouri Department of Natural Resources

MOGAS	motor-gasoline
NCP	National Oil and Hazardous Substance Pollution Contingency Plan
NDI	Non-Destructive Inspection
NEPA	National Environmental Policy Act, as amended
NFA	no further action
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OL	operating location
OSHA	Occupational Safety and Health Administration
OU	operable unit
PA/SI	preliminary assessment/site inspection
PAH	polynuclear aromatic hydrocarbons
PCB	polychlorinated biphenyl
PNA	polynuclear aromatic hydrocarbons
POI	point of interest
POL	petroleum, oils, and lubricant
POTW	publicly owned treatment works
PPM	parts per million
QA/QC	quality assurance/quality control
RA	remedial action
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act, as amended
RD/RA	remedial design/remedial action
RI	remedial investigation
RI/FS	remedial investigation/feasibility study
ROD	Record of Decision
RPM	Remedial Project Manager
SAOP	Spectral Analysis of Oils Program
SARA	Superfund Amendments and Reauthorization Act
SCDD	Site Closure Decision Document
SHPO	State Historic Preservation Officer
SQG	small quantity generator
TPH	total petroleum hydrocarbons
TPM	Technical Project Manager
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	underground storage tank

RICHARDS-GEBAUR AIR FORCE BASE MANAGEMENT ACTION PLAN

EXECUTIVE SUMMARY

Introduction

This Management Action Plan contains the status, management and response strategy, and action items related to Richards-Gebaur Air Force Base's ongoing environmental restoration and associated compliance programs. These programs support full restoration of the base property, which is necessary to complete and meet the requirements for property disposal and reuse activities associated with the closure of the installation. The scope of the Management Action Plan considers the following regulatory mechanisms: the Base Closure and Realignment Act; National Environmental Policy Act; Comprehensive Environmental Response, Compensation, and Liability Act as amended by the Superfund Amendments and Reauthorization Act and the Community Environmental Response Facilitation Act; Resource Conservation and Recovery Act; and other applicable laws.

The Management Action Plan is a planning document, and the information and assumptions presented may not necessarily have complete approval from the U.S. Air Force and/or federal and state regulatory agencies. The Management Action Plan is a dynamic document that will be updated quarterly to reflect the current status and strategies of remedial actions. This document is the first in a series of updates and modifications and represents conditions and strategies as of October 1993.

Status of Disposal Reuse and Interim Lease Process

Richards-Gebaur Air Force Base will officially close in September 1994. The transfer of operational responsibility from the Air Force Reserve to the Air Force Base Disposal Agency will be phased with Air Force Base Disposal Agency first assuming responsibility for environmental restoration, followed by environmental compliance, with overall transfer of base responsibility completed by September 1994. The environmental impact analysis process is ongoing.

A Draft Disposal and Reuse Environmental Impact Statement will be available for public comment in January 1994 and a National Environmental Policy Act Record of Decision is expected by July 1994. As part of the process, the Air Force Base Disposal Agency will prepare a Disposal Plan that will outline the priorities and methods of disposal for each reuse parcel.

A significant portion of the base was transferred (excessed) to the General Services Administration in 1980. Areas of this portion were subsequently transferred to other branches of the military and local communities for reuse. The Air Force retained 11 parcels, which are included in this closure effort.

Status of Environmental Restoration

Richards-Gebaur Air Force Base is a non-National Priorities List installation and the ongoing Installation Restoration Program is not currently under a Federal Facility Agreement with the U.S. Environmental Protection Agency Region VII. However, the base has entered into a cooperative agreement with the state of Missouri Department of National Resources for oversight and guidance during the Installation Restoration Program. Since 1982, the Installation Restoration Program has identified eight sites. Sites are in parcels currently owned by Richards-Gebaur Air Force Base; however, eight additional sites remain on property previously transferred to other parties. The Army Corps of Engineers is responsible for environmental restoration on the transferred property. All eight sites on Richards-Gebaur Air Force Base are in one operable unit (Operable Unit 1), with seven of those in Parcel D and the remaining site, the North Burn Pit in Parcel B.

Decision documents for the following four sites were prepared and submitted to the Missouri Department of National Resources and U.S. Environmental Protection Agency Region VII for concurrence:

- North Burn Pit (Site FT-002)
- Oil Saturated Area (Site SS-003)
- Hazardous Waste Drum Storage (Site SS-004)
- Leaking Underground Storage Tank (Site ST-007).

All four decision documents recommended no further action. The state of Missouri rejected the no further action decision for Site FT-002. The state of Missouri has responded and concurred on the remaining three decision documents.

The remaining four Installation Restoration Program sites on the Richards-Gebaur Air Force Base property, along with Site FT-002, are under investigation.

- Site ST-005 is the Petroleum, Oil and Lubricant Storage Yard where contamination by polynuclear aromatic hydrocarbons has been detected.
- Site SS-006, contaminated by petroleum, oil and lubricants, is the Hazardous Material Drum Storage site.
- Site SS-008 is the Test Cell Area where soils are potentially contaminated by solvents.
- Site SS-009, the Fire Valve Area, is underlain by soils potentially contaminated by petroleum, oil, and lubricants.

Sites ST-005 and FT-002 are in the remedial investigation/feasibility study stage, with the two sites (SS-008, and SS-009) requiring preliminary assessment/site inspection work. The preliminary assessment/site inspection work at Site SS-006 is complete and this site is currently undergoing an interim removal action. An Environmental Baseline Survey was started in April 1993.

Currently scheduled restoration-related compliance activities include one assessment of the abandoned fuel hydrant system, the determination of the extent of lead contamination at the firing range, assessment and upgrade or abandonment of oil/water separators, and water course soil assessment to determine the nature and extent of contamination in the surface streams.

Key Restoration and Transferability Strategies and Schedules

Richards-Gebaur Air Force Base transferred and disposed of a significant portion of the base in the 1980s. The base has also proceeded with environmental restoration activities; however, these activities were focused on compliance of the active base. The base has shifted its focus from environmental restoration for compliance to environmental

restoration for disposal and reuse. Richards-Gebaur Air Force Base has formed a Management Action Plan Project Team and, through refinement of the Management Action Plan, will ensure that the environmental response objectives can be successfully integrated with the property transfer goals in a expeditious manner. The Project Team will require extensive meeting time to set up Management Action Plan strategies, resolve action items, and complete remedial actions in compliance with all environmental laws, property management, and disposal regulations. A summary of the current Management Action Plan action items can be found in Table S-1.

Table S-1. Project Team Action Items
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Action Item	Status	
	In Progress	To Be Performed
HAZARDOUS WASTE/MATERIALS MANAGEMENT		
- Schedule closure of accumulation points		X
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)		
- Review NPDES storm water permit application	X	
- Review applicability of NPDES storm water permit for a closing installation		X
OIL/WATER SEPARATOR		
- Monitor the assessment and upgrade of oil/water separators	X	
- Develop inspection and cleaning schedule for upgraded separators		X
- Determine possible reuse after base closure and develop removal schedule		X
NEPA		
- Determine required NEPA documentation to support preparation of ROD for remedial actions		X
CERCLA 120(H) CONSIDERATIONS		
Environmental Condition of Property		
- Review and monitor the revision of the existing environmental condition status map	X	
- Develop approach to maintain and update the environmental status of properties	X	
- Review further studies use to determine the environmental condition for Category 3 properties		X
- Evaluate adjacent non-Air Force Property in accordance with CERFA		X
SUITABILITY FOR TRANSFER		
- Review and monitor development of suitability-of-transfer map		X
- Identify cleanup standards for property transfer		X
- Identify sites requiring deed restrictions		X
- Integrate type of reuse in determining remedy strategy		X
COMMUNITY RELATIONS		
Coordinate the development of a Community Relations Plan		X
Coordinate the development of a comprehensive catalog and bibliography of restoration-related documentation		X
Establish a Technical Review Committee and hold quarterly meetings	X	
Integrate community relations between CERCLA and NEPA	X	
MANAGEMENT AND ADMINISTRATIVE SUPPORT ACTIVITIES		
Establish and maintain IRPMS for information management		X
Evaluate data for each site to identify data gaps and resolution		X
Establish background concentration levels for use in risk assessments	X	
Distribute and coordinate restoration-related data and decisions with disposal and reuse-related data and decisions through Project Team meetings		X
Evaluate the Project Team to ensure that appropriate capabilities and representation are included in the team at the various stages of the restoration and disposal process		X
Continue to enact data quality management procedures		X
PROJECT TEAM		
Inform proposed Project Team members of their inclusion in Project Team		X
Assign roles and responsibilities of each team member		X
Develop meeting schedule and agenda items		X
Review and refine existing environmental restoration strategies	X	
DISPOSAL AND REUSE		
Review and refine existing parcel map		X
Review and coordinate development of disposal plan		X
Review and coordinate development of reuse plans and priorities		X
Review and monitor development of EIS and NEPA ROD	X	

Table S-1. Project Team Action Items
Page 2 of 2

Action Item	Status	
	In Progress	To Be Performed
RESTORATION ACTIVITIES		
Refine strategy for source discovery and assessment		
- PA/SI and RI/FS	X	
- EBS review		X
Refine strategy for determining optimal response mechanisms		
- Evaluate the applicability of DSMOA mechanism for non-IRP sites		X
Review restoration schedule	X	
Review strategy for identifying and implementing required field work		
- Review report that delineates the extent and concentration of contamination above and below action levels		X
- Review basis for determining the action levels		X
Review strategy to expedite RD/RA studies		X
Prepare summaries of existing decision documents		X
Refine strategy for remedy selection approach		
- Review integration of DSMOA requirements		X
COMPLIANCE ACTIVITIES		
UST Removal/Compliance		
- Remove remaining two tanks		X
Aboveground Storage Tank Reuse/Removal/Compliance		
- Identify potential reuse parties for tanks		X
- Schedule removal of non-operational tanks		X

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Chapter 1

Introduction and Summary

In the past, Richards-Gebaur Air Force Base (AFB) managed and disposed of wastes according to the practices of the time. Although these practices were acceptable, they did not provide the level of protection to human health and the environment as current practices, impacting some areas of the base. In response, an environmental restoration program was initiated at the base in 1982. In addition, several compliance programs have been implemented to ensure that present waste and resource management practices are consistent with applicable laws and regulations.

This Management Action Plan (MAP) summarizes the current status of the Richards-Gebaur AFB environmental restoration and associated compliance programs and presents a comprehensive strategy for implementing response actions necessary to protect human health and the environment from conditions caused by past waste and resource management practices. The response action strategy integrates activities being performed under both the Installation Restoration Program (IRP) and the associated environmental compliance programs to support full restoration of the base. The MAP is a dynamic document that will be updated on a regular basis to incorporate newly obtained information and to reflect the completion or change in status of any remedial actions (RAs). The contents of the MAP are as follows.

Chapter 1 describes the objectives of the environmental restoration program, explains the purpose of the MAP, introduces the proposed Richards-Gebaur AFB Project Team that will be formed to manage the program, and provides a brief history of the base operations.

Chapter 2 discusses the closure schedule and activities for Richards-Gebaur AFB. The strategy for transferring land from military to civilian use is discussed.

Chapter 3 summarizes the current status of the Richards-Gebaur AFB IRP and associated environmental compliance programs, community relations activities that have occurred to date, and the environmental condition of base property.

Chapter 4 describes the basewide strategy for environmental restoration, including the strategies for dealing with each site and operable unit (OU)

on the base, and presents plans for addressing waste sources via the underground storage tank (UST) program and other associated compliance programs.

Chapter 5 provides a master schedule of planned and anticipated activities to be performed throughout the duration of the environmental restoration program, including associated compliance activities.

Chapter 6 describes specific technical and/or administrative issues to be resolved by the Richards-Gebaur AFB Project Team and presents a strategy for resolving these issues.

In addition to the main text, the following appendices are included in this document:

- Appendix A - tables presenting funding requirements for environmental restoration and environmental compliance activities, as well as a summary table of past costs for the environmental restoration program
- Appendix B - technical documents and data loading summary, listings of previous environmental restoration program deliverables by program and by site
- Appendix C - summaries of decision documents (DDs) for which an RA was selected
- Appendix D - summaries of each DD for each site or OU for which a no further action (NFA) decision has been made
- Appendix E - summary of conceptual site models.

1.1 Environmental Response Objectives

The objectives of the Richards-Gebaur AFB environmental restoration program are to:

- Protect human health and the environment.
- Comply with existing statutes and regulations.

- Take the corrective measures necessary to prepare the base for closure and conveyance of property/facility for reuse.
- Complete remedial investigations (RIs) and feasibility studies (FSs) as soon as practicable for each site or OU.
- Identify all potential contaminant source areas.
- Establish areas of no suspected contamination (ANSCs).
- Initiate removal actions where necessary to control, eliminate, or reduce risks to manageable levels.
- Characterize risks associated with releases of hazardous substances, pollutants, contaminants, or hazardous wastes.
- Develop, screen, and select RAs that reduce risks in a manner consistent with statutory requirements.
- Commence RAs for areas of concern (AOCs) as soon as practicable.
- Conduct long-term remedial operations and monitoring for groundwater and any necessary 5-year reviews for wastes or contaminants present on site.

1.2 MAP Purpose

The purpose of this MAP is to summarize the status of Richards-Gebaur AFB's environmental restoration program and provide a comprehensive long-range strategy for conducting the environmental restoration and associated compliance programs. In addition, it defines the status of efforts to resolve technical issues so that continued progress and implementation of scheduled activities can occur. The Richards-Gebaur AFB Project Team will use this MAP to direct and monitor environmental response actions and schedule activities needed to resolve technical, administrative, and operational issues.

1.3 Project Team

The proposed Project Team is listed in Table 1-1; this list includes the title of each team member and specifies their roles and responsibilities. Led by the base Remedial Project Manager (RPM), the Project Team should meet on a regular basis to resolve technical and policy issues, conduct program reviews, and reach consensus on procedural, organizational, and operational issues. To date, the Project Team has met two times, once in April 1993 and a second time in July 1993. The current strategy is to hold team meetings on a quarterly basis. Other key participants will be added to the core Project Team to provide necessary expertise on an as-needed basis. These may include members with expertise in chemistry, hydrogeology, risk assessment, or property reuse.

Issues addressed in Project Team meetings include summaries of recent RIs, FSs, treatment and remediation technologies, data quality assurance/quality control (QA/QC), data management and analysis, background levels of contaminants in environmental media, data gap review, progress toward base closure milestones, and risk assessment protocols. The status and planned actions for each issue are presented in Chapter 6.

Proposed procedures for Project Team meetings include the following:

- Meetings should be held as required to meet project schedules and resolve project issues.
- Meetings should begin with an oral presentation of the issue(s).
- Each issue should be discussed in turn and resolved if possible.
- The Air Force should document any resolved issue(s) in a meeting summary.
- Program modifications should be made, where appropriate.

Table 1-1. Project Team Members at Richards-Gebaur AFB

Proposed Core Team Members					
Name	Title	Telephone	Fax	Role/Responsibility	Organization/ Address
Garey Reeves	Richards-Gebaur AFB Site Manager	816-348-2077	816-348-2509	Disposal Coordinator	Richards-Gebaur, MO 64146-5000
Martha Kopper	Missouri Department of Natural Resources, Hazardous Waste Permits	314-751-2506	341-751-7869	Corrective Action	MDNR P.O. Box 176 Jefferson City, MO 65102
Capt. Brad Beck	AFCEE/ESB	210-536-5274	210-536-9026	AFCEE Restoration Project Manager	AFCEE 8001 Orner Circle Dr., Ste. 100 Brooks AFB, TX 78235
Bill Singleton	Burns & McDonnell	816-822-3133	816-822-3414	Installation Restoration Program, Project Manager	Burns & McDonnell P.O. Box 419173 Kansas City, MO 64141- 6173
David Napoli	Kansas City Aviation Department, Special Projects	816-243-5207	816-243-5450		Kansas City Aviation Department Box 20047 Kansas City, MO 64195
Mark Each	HQ AFRES/CEV	912-327-1077	912-327-0108	Point of Contact	HQ AFRES/CEV 155 Second St., Ste. 2300 Robins AFB, GA 31098- 1635
Dominic Frinzi	HQ AFBDA/LD Assistant Chief Counsel	703-696-5530 DSN: 226	703-696-8828		HQ AFBDA 1700 N. Moore St., Ste. 2300 Arlington, VA 22209-2802
Michael Larson	Central Environmental Coordinator	703-696-5564 DSN: 226	703-696-8833		HQ AFBDA 1700 N. Moore St., Ste. 2300 Arlington, VA 22209-2802
Teresa Pohlman	HQ AFBDA/CE	703-696-5561 DSN: 226	703-696-8833		HQ AFBDA/CE 1700 N. Moore St., Ste. 2300 Arlington, VA 22209-2802
Tom Pilcher	Richards-Gebaur AFB, Remedial Project Manager	816-348-2091	816-348-2509	Lead Project Manager	442 SPTG/CEV Richards-Gebaur AFB, MO 64147-5000

1.4

Brief History of Installation

Richards-Gebaur AFB is a reserve base located in west-central Missouri, approximately 18 miles south of downtown Kansas City and about 2.6 miles from the Kansas state line. The base is bounded by the city of Belton on the east and south, and is surrounded by Kansas City to the north and west. Richards-Gebaur AFB is not on the National Priorities List (NPL) and has not entered into a Federal Facility Agreement (FFA).

Richards-Gebaur AFB is located within the Osage Plains region of the Central Lowland physiographic province. The region is characterized by low relief, wide, maturely dissected uplands, and relatively steep valley slopes. The topography of Richards-Gebaur AFB is gently rolling with an average elevation of approximately 1,000 feet above mean sea level. All base drainage is located within the Little Blue River drainage basin, which ultimately flows to the Missouri River. Within this drainage basin, base storm water flow is generally toward Scope Creek, which runs south to north through the base.

The geology of the base is characterized by very thin loess deposits over residual soils derived from the in-place weathering of the underlying limestones and shales. The soils at Site ST-005 belong to the Macksburg-Urban series, which is defined as being gently sloping, poorly drained silt and silt clay loams, covered in places by urban features. Rock outcrops are found along Scope Creek. Exposed rocks include the Argentine Limestone Member of the Wyandotte Formation, the Lane Formation, the Raytown Limestone Member of the Iola formation limestone, and the Chanute Formation. The Argentine Member is a light gray limestone characterized by thin, wavy bedding, except in the lower few feet, where the unit is thick-bedded. The Lane Formation is a medium gray to bluish gray shale that is commonly silty to sandy in the upper part. The Raytown Member is a medium bluish gray, wavy bedded limestone, locally containing interbedded lenses of shale approximately three inches thick. The Chanute Formation is a gray, red, purplish red and green shale with thin nodular limestone near the middle, and local occurrences of cross bedded sandstone and conglomerate. All of the exposed units are Pennsylvanian in age. The weathered zone overlying these rocks is typically 2 to 15 feet thick. The soil is generally silty clay with a hydraulic conductivity of approximately 10^{-6} centimeters per second. The depth to groundwater is generally

shallow (several feet to approximately 30 feet) and typically varies over short distances due to perched conditions. The depth to groundwater varies seasonally (seasonal high depth to water of approximately 2 to 4 feet below ground surface) but also varies with the topography, with groundwater being deeper in areas of higher topography.

In 1941, the land occupied by Richards-Gebaur AFB was acquired by Kansas City for use as an auxiliary airport (Grandview Airport). In 1952, the Aerospace Defense Command leased the airport from the city for air defense operations, and in 1953 the property (approximately 2,400 acres) was formally conveyed to the U.S. Government for establishment of an Air Force base. The C-46 airlift aircraft were the original Air Force reserve aircraft stationed at the base. Conversion to C-119 and C-124 aircraft occurred in 1957 and 1961, respectively. In 1957, the base was named Richards-Gebaur AFB.

Until 1970, the Air Defense Command (ADC) had the primary mission on base. In 1970, the Air Force Communications Service (AFCS) relocated its headquarters from Scott AFB, Illinois, to Richards-Gebaur AFB and assumed command. In 1971, the C-124 reciprocating engine aircraft were replaced by C-130 aircraft. This conversion reduced industrial waste quantities produced at the base (e.g., approximately half as much waste oil was generated with the C-130s). The AFCS moved back to Scott AFB in 1977 and Richards-Gebaur AFB came under the Military Airlift Command.

The number of active duty military and civilians at Richards-Gebaur AFB was reduced from a maximum of about 5,000 personnel during the active years of the base to less than 500 full-time personnel. By September 1979, the majority of the operating support functions were transferred to Talley Services, Inc., a civilian contractor. The Air Force Reserve (AFRES) assumed operational control in October 1980. In 1982, base mission changes resulted in the conversion to A-10 fighter aircraft from the C-130s, resulting in a substantial decrease in the quantities of waste oils, fuels, and solvents generated. The AFRES 442nd Fighter Wing currently has the primary mission on base. They are equipped with A-10 Thunderbolt II aircraft. Table 1-2 summarizes the history of base operations at Richards-Gebaur AFB from 1941 to

Table 1-2. History of Installation Operations at Richard-Gebaur AFB

Period	Type of Operations	Weapon System	Hazardous Substance Activities	Map Reference^(a)
Pre-1941	Agriculture			
1941-1952	Grandview Airport (auxiliary to greater Kansas City area)		General civilian aircraft maintenance	
1952-1970	Aerospace Defense Command (ADC)	F-86 fighter aircraft (1952) F-102 fighter aircraft (1960) F-106 fighter aircraft (1967) C-46 cargo aircraft (1954) C-119 cargo aircraft (1957) C-124 cargo aircraft (1961)	Aircraft maintenance activities, munitions storage, bulk fuel storage, fuel hydrant system, fire training activities, wastewater treatment plant, South Landfill, Northeast Landfill, contractor rubble burial site, radioactive disposal well	A, B, C, D, E, F, J
1970-1977	Air Force Communications Service (AFCS)	C-130 cargo aircraft (1971)	Same as above, herbicide burial site, South and Northeast landfills closed, radioactive disposal well closed	C, D, E, G, J
1977-1980	Military Airlift Command (MAC)	C-130 cargo aircraft	Same as above, fuel hydrant system decommissioned, rubble burial site closed	C, D, E, G, J
1980-1982	Air Force Reserve 442nd Airlift Wing	C-130 cargo aircraft	Same as above	C, D, E, G, J
1982-present	Air Force Reserve 442nd Fighter Wing	A-10 Thunderbolt II fighter aircraft	Same as above	C, D, E, G, J

Note: (a) Please refer to Figure 1-1.

present. Figure 1-1 presents locations of past hazardous waste activities at Richards-Gebaur AFB.

The majority of the base facilities (runways, taxiways) and properties were excessed (transferred) to the General Services Administration (GSA) in 1981 and an interim lease and joint use of the airport with Kansas City became effective. The excessed parcels were subsequently transferred by GSA for public and other military uses to Kansas City, Belton, the Department of the Navy, and the Department of the Army. Base property at the present time comprises 848.34 acres as follows: 427.77 acres in fee (including 244.12 acres of Richards-Gebaur AFB proper and 183.65 acres of Belton Training Annex); and 420.57 acres in easements. Tables 1-3, 1-4, and 1-5 summarize the history of base property acquisition and disposal since the commissioning of Grandview AFB.

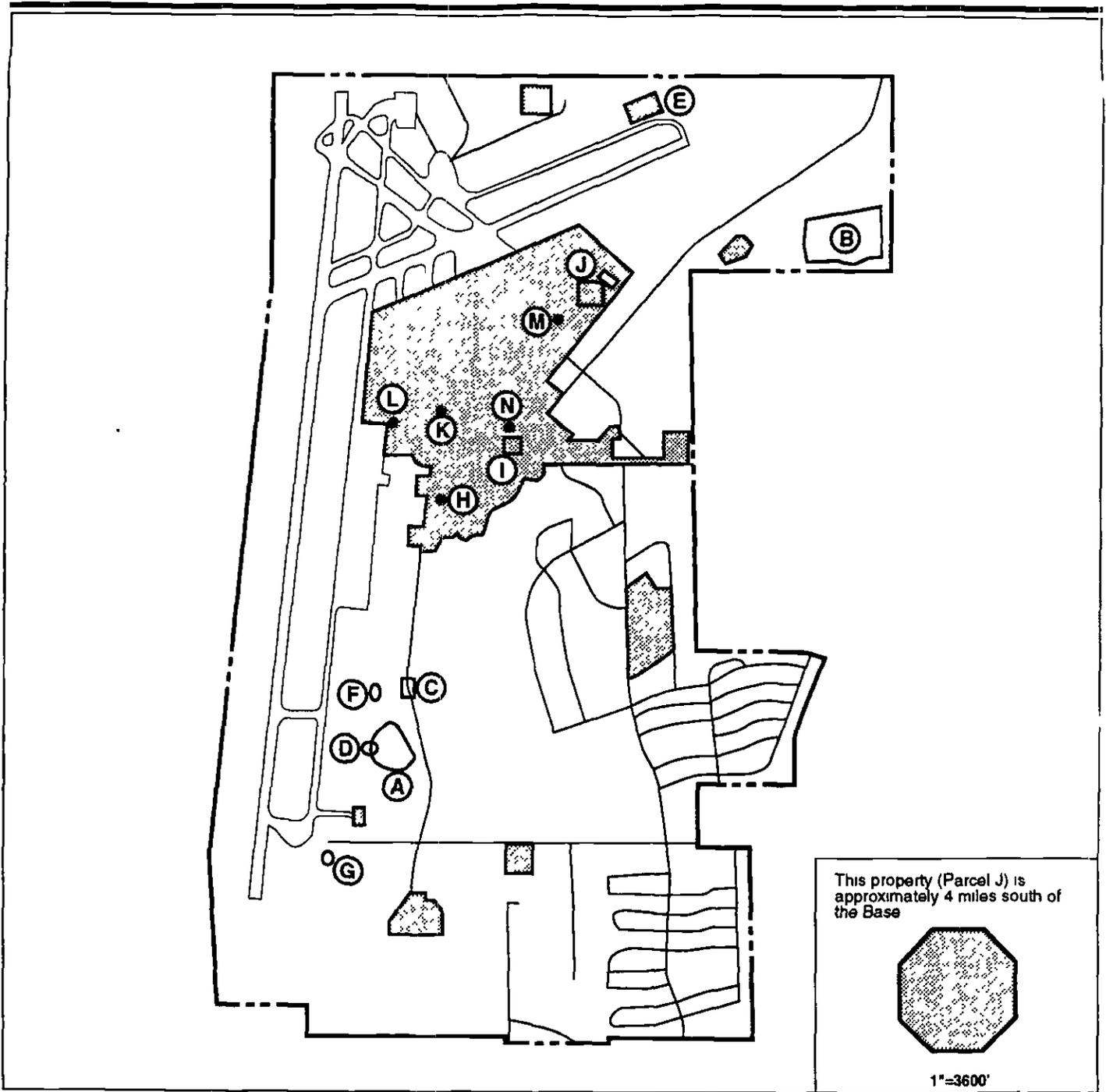
1.5 Off-Base Property/Tenants

Off-Base Property. For the purposes of this report, off-base property is defined here as any property in fee not physically contiguous with the main base or Cantonment. Real properties owned by AFRES and associated buildings that are not a part of Richards-Gebaur AFB proper total approximately 220 acres. A description of each parcel is provided in Table 1-6.

In addition, there is a small piece of property northwest of the base known as the Grandview Radio Beacon, formerly part of the 1400 Area. The land is owned by Kansas City while the improvements (e.g., ceilometer, navigation aids, Building 1401) are owned and maintained by Richards-Gebaur AFB. There are also three easement areas used by the base, which are described in Table 1-7.

The 1600 Area (i.e., Belton training annex) is currently under the jurisdiction of the Army by permit.

Tenant Organizations. Tenant organizations using Richards-Gebaur AFB property are listed below. Only one tenant, the Army and Air Force Exchange Service (AAFES), which operates the Base Exchange (BX), either handles or stores hazardous materials.



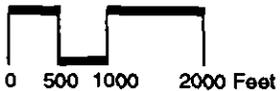
EXPLANATION

(A) Site Number

□ Property Currently Owned by Others

▨ Property Currently Owned by Richards-Gebaur AFB

--- Base Boundary Prior to 1980



Landfills

- A South Landfill
- B Northeast Landfill
- C Contractor Rubble Burial Site

Fire Department Training Areas

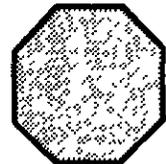
- D South Burn Pit
- E North Burn Pit

Other

- F Radioactive Disposal Well
- G Herbicide Burial Site
- H Oil-Saturated Area
- I Hazardous Waste Drum Storage
- J POL Storage Yard
- K Hazardous Material Drum Storage
- L Leaking UST
- M Test Cell Area
- N Five Valve Area

Locations of Past Hazardous Substance Activities

This property (Parcel J) is approximately 4 miles south of the Base



1"=3600'

Figure 1-1

Table 1-3. Real Property Records

Name	Acres	Location	Date Acquired	Dates of Operation
Small Arms Range	2.29	Northeast of base	1953	1953-present
Fire Training Area	2.37	North of base	1953	1953-present
Contracting	0.66	Adjacent to southwest base boundary	1953	1953-present
Gun Release	1.20	Adjacent to southwest base boundary	1953	1953-present
NDI Lab	1.03	South end of runway	1953	1953-present
Communications/ Transmitter	2.65	At north-central boundary of base	1953	1953-present
1,100 Area	2.85	South of base	1953	1953-present
1,200 Area	9.44	South of base	1953	1953-present
Billeting Complex	12.74	South of base	1953	1953-present
1,600 Area	183.65	4 miles south of base	1953	1953-present
Main Base	244	18 miles south of Kansas City, MO	1953	1953-present

Note: Cantonment Area is not included.

Table 1-4. History of Base Property Acquisition

Former Owner	Acres	Location/ Tract	Date Acquired
City of Kansas City	1787.50	100	1955
Frank C. Denny	5.0	101	1955
Columbian Hog and Cattle Powder Company	(39.18)	102E	1955
Edwin Hawthorne	226.00	201	1955
John E. Cheatham	50.01	202	1955
John E. Cheatham	(2.09)	202E	1955
Eliza Jean Taylor estate	55.32	203	1955
Jack L. Gabriel	78.32	205	1955
Eliza Jean Taylor estate	(77.44)	206E	1955
Jack L. Gabriel	(134.90)	207E	1955
Columbian Hog and Cattle Powder Company	2.3	103	1956
Columbian Hog and Cattle Powder Company	(0.04)	103E	1956
Carl Hoelzel Inc	59.42	104	1957
Christine Gehrs	4.25	105	1957
Charles M. Jennings	40	106	1957
Fieada Potter Welbourn	0.13	109	1957
Fieada Potter Welbourn	(0.12)	109E	1957
Henry L. Jost Jr.	29.05	114	1957
Getrude Belden	0.87	208	1957
Getrude Belden	(0.07)	208E	1957
City of Kansas City	6.42	119	1958
City of Kansas City	(0.68)	119E	1958
Ollie Bright	(7.80)	112E	1959
Columbian Hog and Cattle Powder Company	(24.14)	110E	1960
Richard L. Dunlap	111.20	113E	1960
Dorothy L. McPherson	(42.86)	115E	1960
Joseph C. Beery	(81.81)	116E-1	1960
Joseph C. Beery	(24.92)	116E-2	1960
City of Belton	(105.90)	126-E	
City of Kansas City	20.33	127E-1	
City of Kansas City	2.54	127E-2	
City of Kansas City	2.03	127E-3	

Table 1-5. History of Base Property Disposal

Former Owner	Acres	Location/ Tract	Date Acquired	Date Transferred/ Relinquished	Remarks
Richards-Gebaur AFB	<11.40>	part of Tract 100	1953	1980	Transferred to Department of the Army
Richards-Gebaur AFB	<74.47>	part of Tract 100	1953	1974	Transferred to Department of Navy Family Housing
Richards-Gebaur AFB	<21.50>	part of 100 & 120	1953	1983	Department of Navy (Seabee site)
Richards-Gebaur AFB	<138>	part of 100 & 101	1953	1981	Excessed to General Services Administration (GSA)
Richards-Gebaur AFB	<103>	part of 201	1953	1975	Excessed to GSA (1974) and conveyed to city of Belton
Richards-Gebaur AFB	<92>	part of 201	1953	1974	Transferred to DOE by GSA
Richards-Gebaur AFB	<31>	part of 201	1953	1984	Transferred to DOE
Richards-Gebaur AFB	<12>	part of 100	1953	1984	Transferred to Department of Navy
Richards-Gebaur AFB	<2.27>	part of 100	1953	1984	Conveyed to Belton School District
Richards-Gebaur AFB	<187.09>	part of 100	1953	1984	Conveyed to city of Belton
Richards-Gebaur AFB	<133.54>	part of 100	1953	1985	Conveyed to Kansas City
Richards-Gebaur AFB	<2.5>	part of 100	1953	1985	Conveyed to the Believers Bible Church
Richards-Gebaur AFB	<4.43>	part of 100 & 101	1953	1986	Conveyed to city of Belton
Richards-Gebaur AFB	<1227.24>	103, 105, 106	1956, 1957	1985	Conveyed to Kansas City
Richards-Gebaur AFB	<(333.82)>	109, 208 and parts of 100, 114, 120	1955, 1957	1985	Conveyed to Kansas City

Notes: < > = Property Relinquished
 () = Easement Acquired
 <()> = Easement Relinquished

Table 1-6. Summary of Off-Base Property

Description	Parcel Designation	Acreage
Small Arms Range (1049, 1050)	C	2.29 acres
Fire Training Area (1033)	B	2.37 acres
Contracting (801)	I	0.66 acres
Gun Release (828)	H	1.20 acres
NDI Lab	K	1.03 acres
Communications/Transmitter (1025)	A	2.65 acres
1100 Area	F	2.85 acres
1200 Area	G	9.44 acres
Billeting Complex	E	12.74 acres
1600 Area	J	183.65 acres

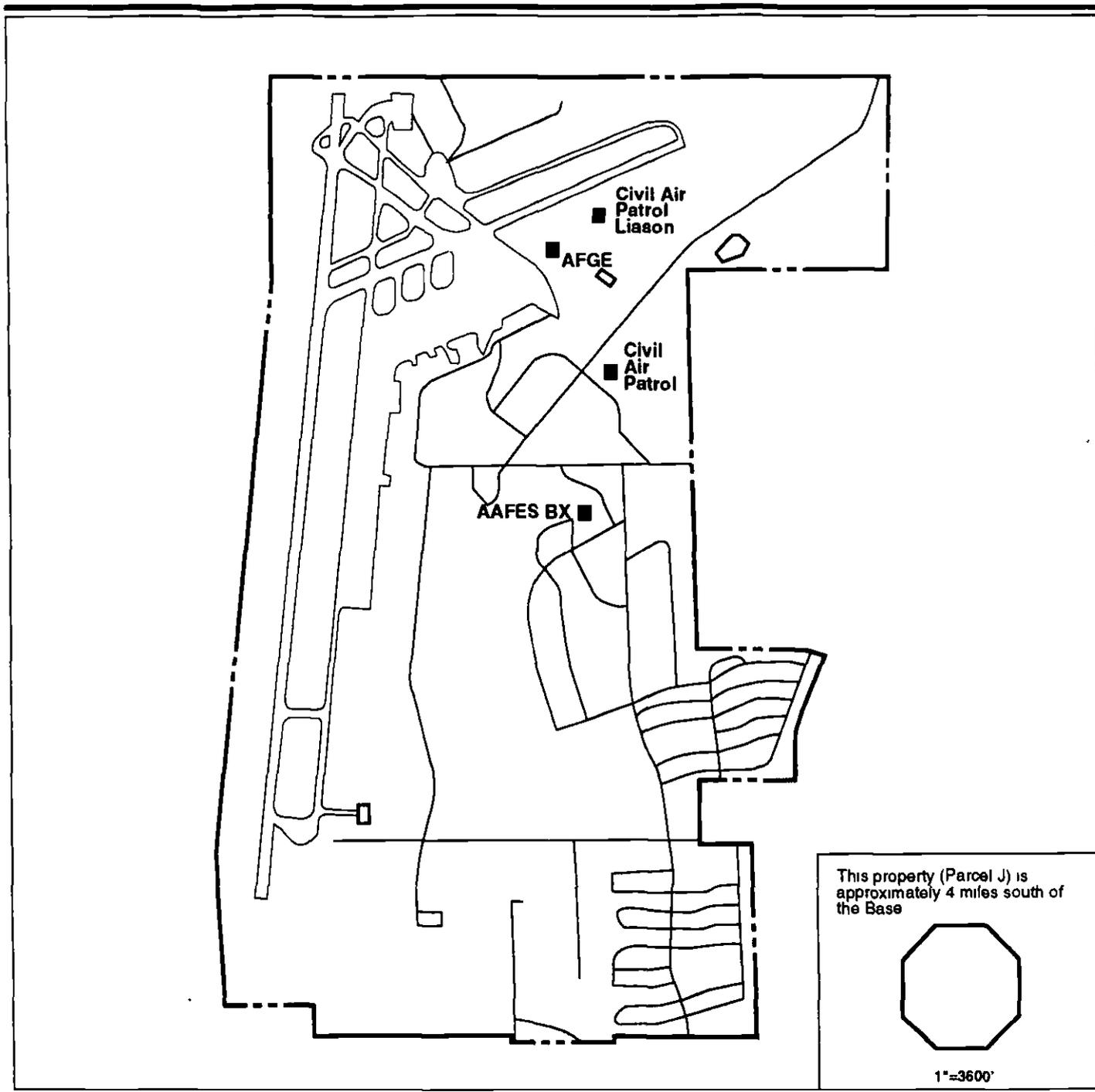
Note: Parcel D (Cantonment Area), which includes the remaining 209 acres of the base, is not included.

Table 1-7. Summary of Existing Easement Areas

Area	Easement Acreage/Description
1200 Area	113.74 acres/munitions storage safety clearance
Small Arms Range	20.33 acres/small arms range fallout fan
1600 Area	284.41 acres/Belton training annex safety clearance 2.09 acres/road easement

- AAFES operates the BX where various types of household goods are sold including household hazardous materials sales and storage.
- Civil Air Patrol (Building 620) controls civilian rescue flight operations from Richards-Gebaur Airport.
- Civil Air Patrol Liaison for Missouri and Kansas (Building 901).
- American Federation of Government Employees (AFGE) local (Building 917) - local union for on-base civilian employees.

Figure 1-2 shows the location of these non-Air Force tenant organizations.



EXPLANATION

----- Base Boundary Prior to 1980

Location of Non-Air Force Tenants



Figure 1-2

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Chapter 2

Property Disposal and Reuse Plan

2.1

Status of Disposal Planning Process

Planning for base closure began in October 1991 when a Notice of Intent (NOI) to prepare a Disposal and Reuse Environmental Impact Statement (EIS) was published in the Federal Register. Development of the EIS began in mid-April 1993 and the Draft EIS is expected to be released in early 1994. A public scoping meeting was held in November 1991 to identify environmental issues and concerns for the EIS effort. The Kansas City Aviation Department is preparing a Base Comprehensive Reuse Plan (BCRP), which is scheduled to be complete in December 1993. The National Environmental Policy Act (NEPA) Record of Decision (ROD) for the EIS is scheduled to be submitted in July 1994.

2.1.1

Properties Pending Disposal Decisions

The disposal methods for each reuse parcel will be investigated and documented during the preparation of a Draft Disposal Plan. To date, the disposal methods have not been identified. In addition, the Project Team will identify the priority of the disposal and reuse for each parcel based on market demand and the reuse goals. In 1980, portions of the base were transferred to GSA; however, Richards-Gebaur AFB retained certain parcels that were landlocked and surrounded by property that had been transferred.

A decision to dispose of all utilities, including storm water, steam distribution, and electricity will be delayed pending further refinement of the base disposal options and consultation within the Project Team.

2.1.2

Interim Leases

No interim leases have been issued at Richards-Gebaur AFB. If a request is received, the OL Q, AFBDA will work with base personnel to determine the status of the facility under consideration.

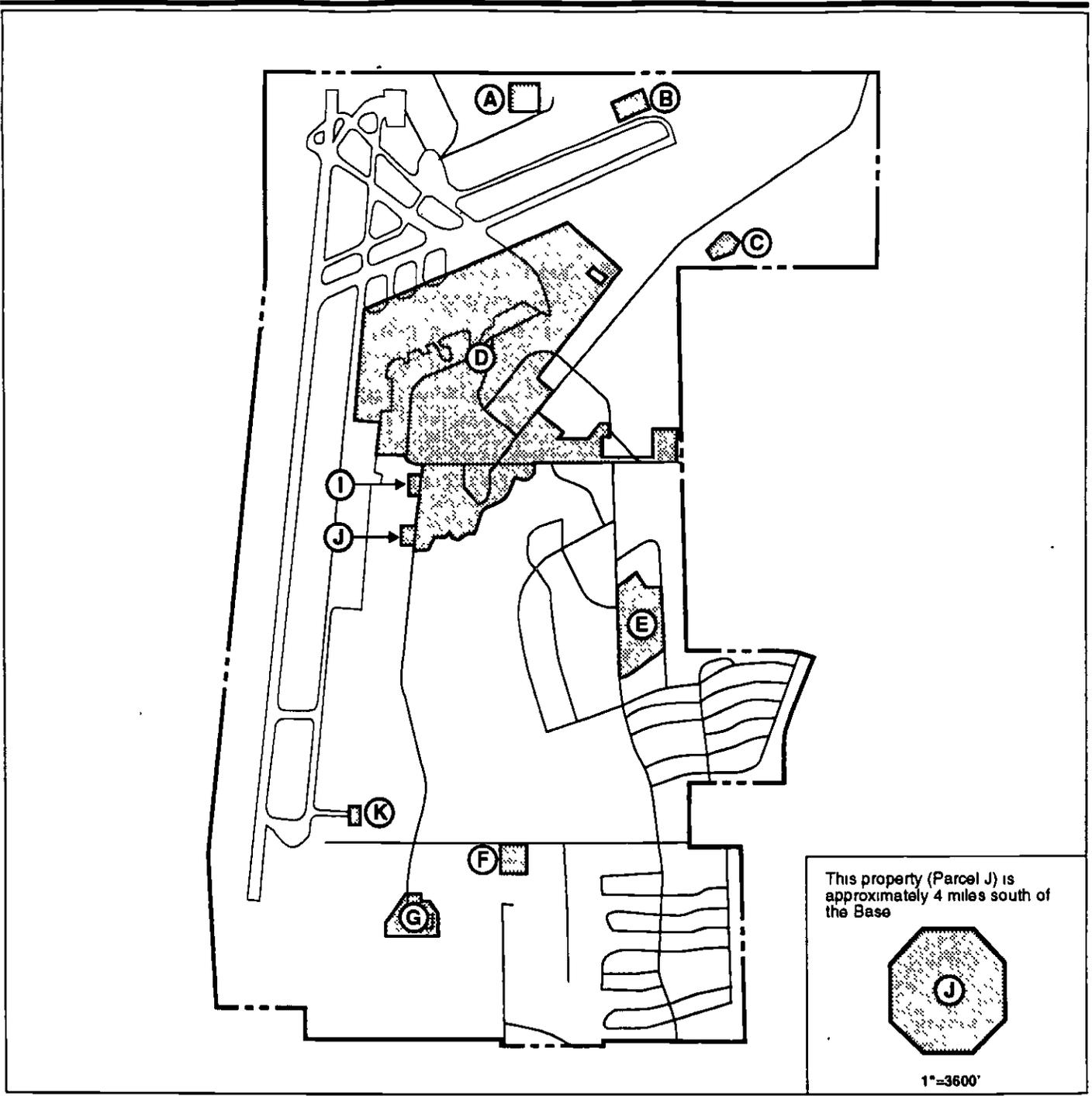
2.1.3

Parcel Descriptions

As described in Section 1.4, a significant portion of the base was excessed to the GSA in the 1980s and has already been transferred to other branches of the military and local communities for reuse. Eleven parcels of land, referred to as Parcels A through K, remain under Air Force control and are the subject of the ongoing base closure effort. A preliminary environmental-condition-of-property map has been developed (see Figure 3-2). The conditions of parcels described below will be confirmed during the Environmental Baseline Survey (EBS) that is scheduled for release in December 1993. Following are brief descriptions of each parcel; the location of each is shown on Figure 2-1. (Please refer to Chapter 3 for details on environmental condition of property.)

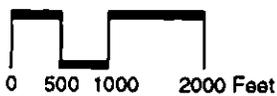
Parcel A, Communications Transmitter Site, occupies an area of 2.65 acres located at the north-central boundary of the base. It is surrounded by land that was transferred to Kansas City in the 1980s. There are no IRP sites identified on this parcel.

Parcel B, North Burn Pit, is located east of Parcel A and is surrounded by land transferred to Kansas City. The parcel consists of 2.37 acres and is the location of an IRP site (FT-002), the North Burn Pit. The site has some residual contamination. Based on an environmental risk analysis that showed the site was not a threat to human health or the environment, the base proposed an NFA with a deed restriction. The NFA decision was rejected by the state of Missouri; therefore, a supplemental RI has been scheduled.



EXPLANATION

- (A)** Parcel Designation
-  Property Currently Owned by Others
-  Property Currently Owned by Richards-Gebaur AFB
-  Base Boundary Prior to 1980



**Disposal and Reuse
Parcels**

Figure 2-1

Parcel C, Small Arms Range, occupies 2.29 acres located near the northeastern part of the base. The parcel also has a firearms easement of 113.74 acres. The parcel is surrounded by land transferred to Kansas City. There are no IRP sites identified on the parcel.

Parcel D, Office and Building Area, is the largest on-base parcel, occupying 208.90 acres, 1.39 acres of which is owned by Kansas City (see Figure 2-1). Seven of the eight IRP sites (all except FT-002) are in this parcel. All the land around the parcel is owned by Kansas City except for a small bordering parcel near the base entrance that is owned by the Navy. The parcel includes the base headquarters building, base hospital, base engineering, wing headquarters, supply, accounting and finance, vehicle maintenance, hangars, flightline activities, petroleum, oil and lubricant (POL) yard, and security police.

Parcel E, Consolidated Open Mess and Billeting Complex, occupies 12.74 acres south of parcel D. The parcel is surrounded by property owned by Kansas City. It is currently used as the consolidated open mess, for sports activities, and visiting quarters. There are no IRP sites identified on this parcel.

Parcel F, 1100 Area, occupies 2.85 acres and is currently used as a storage area. A transmitter is also located in this parcel, which is located in the southern part of the base. The parcel is surrounded by land that was transferred to the city of Belton in the 1980s. There are no IRP sites identified on the parcel.

Parcel G, 1200 Area, is also surrounded by land that was transferred to the city of Belton. The parcel occupies 9.44 acres and is currently used for munitions storage. An easement of 113.74 acres around the parcel is the munitions storage safety clearance area. There are no IRP sites identified on the parcel.

Parcel H is a small parcel occupying 1.2 acres and is the location of the Gun Release Shop. There are no IRP sites identified on this parcel.

Parcel I is another small parcel consisting of 0.66 acre on which the contracting and graphics buildings are located. There are no IRP sites identified on this parcel.

Parcel J, 1600 Area, is 183.65 acres of fee-owned property used as a practice drop zone. An easement of 286.5 acres is also located in this parcel which is used for the Belton Training Area. The parcel is located

approximately 4 miles south of Richards-Gebaur AFB. There are no IRP sites identified on this parcel.

Parcel K is a 1.03-acre site that contains the Non-Destructive Inspection (NDI) Lab. As part of the NDI Lab, a Spectral Analysis of Oils Program (SAOP) Lab is also located within this area. There are no IRP sites identified on this parcel.

Based on a cursory review of the preliminary assessment/site inspection (PA/SI) data, Parcels A, C, E, F, G, H, I, J, and K have no IRP sites. A preliminary environmental-condition-of-property map (see Figure 3-2) was generated based on the preliminary review. The conclusions and the assumptions used to generate the property map will be reviewed and verified during the scheduled EBS.

2.2

Relationship to Environmental Programs

The requirements for the transfer of federal property necessitating compliance with the Comprehensive Environmental Restoration, Compensation, and Liability Act (CERCLA) 120(h)(3)(B)(i) as amended by the Community Environmental Response Facilitation Act (CERFA) and the possibility of residual contamination will be factored into the property disposal and reuse process.

The disposal and reuse activities at Richards-Gebaur AFB are performed with the understanding that residual contamination may remain on certain properties after the completion of RAs that may restrict future land use, and that the requirements set forth in CERCLA 120(h)(3)(B)(i) and CERFA must be followed.

CERCLA 120(h)(3)(B)(i) requires deeds for federal transfer of previously contaminated property to contain a covenant that all RAs necessary to protect human health and the environment have been taken. This deed requirement applies only to property on which a hazardous substance was stored for 1 year or more, or known to have been disposed of or released. This means that any required remedial and/or removal response actions must be selected and implemented for such contaminated properties before transfer to private parties can occur. In accomplishing this, an operating policy developed by the Air Force will be used to determine the suitability to transfer specific disposal/reuse

properties. This Air Force policy is applicable to the transfer property at closing installations.

The Richards-Gebaur AFB RPM has developed a preliminary environmental-condition-of-property map (see Figure 3-2) to delineate areas on base that are suitable for transfer and those that are not. This map aids in the visualization of existing areas of identified contamination and, more importantly, those areas that have been identified as ANSCs. These areas may then be evaluated as they apply to the identified disposal and reuse parcels. EBS data collection occurred in April 1993 and completion of the Final EBS is scheduled for December 1993. The EBS will identify the existing environmental constraints associated with real properties belonging to Richards-Gebaur AFB. The EBS will also review and verify the environmental constraints presented in the preliminary environmental-condition-of-property map. The final EBS will contain an environmental constraints map that will identify the ANSCs, areas with known or potential concern, and areas with unknown environmental concerns requiring further investigation. Areas that are not considered ANSCs will be evaluated under either compliance-related corrective action or closure activities or will be evaluated in accordance with IRP requirements.

Richards-Gebaur AFB's environmental restoration program strategies will be considered during the disposal and reuse decision process so the possibility of residual contamination and the need for institutional controls may be addressed. Areas on base where hazardous substances, pollutants, or contaminants are expected to remain above levels that allow for unlimited use and unrestricted exposure will constrain or dictate future use of those areas. Table 2-1 presents a summary of the reuse parcel data and a projected transfer date.

Table 2-1. Reuse Parcel Data Summary

Parcel	Acres	Priority	Description and Proposed Reuse	Known IRP Sites	Projected Transfer Date
A Communications/ Transmitter	2.65	Low	Reuse to be determined during preparation of Base Disposal Plan	None	1995
B North Burn Pit	2.37	Medium	Reuse to be determined during preparation of Base Disposal Plan	FT-002 RI ongoing	1996
C Small Arms Range	2.29	Low	Reuse to be determined during preparation of Base Disposal Plan	Investigation complete. All contaminants below State Action Levels. Awaiting certification of results by state.	1997
D Offices, Buildings	208.89	High	Reuse to be determined during preparation of Base Disposal Plan	SS-003, SS-004, ST-005, SS-006, ST-007, SS-008, SS-009	1997
E Consolidated Open Mess and Billeting Complex	12.74	Low	Reuse to be determined during preparation of Base Disposal Plan	None	1995
F 1100 Area	2.8	Low	Reuse to be determined during preparation of Base Disposal Plan	None	1995
G 1200 Area	9.44	Low	Reuse to be determined during preparation of Base Disposal Plan	None	1995
H Gun Release Shop	1.2	Low	Reuse to be determined during preparation of Base Disposal Plan	None	1995
I Contracting and Graphics	0.66	Low	Reuse to be determined during preparation of Base Disposal Plan	None	1995
J 1600 Area	183.65	Low	Reuse to be determined during preparation of Base Disposal Plan	None	1995
K NDI Lab NOI	1.03	Low	Reuse to be determined during preparation of Base Disposal Plan	None	1995

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Chapter 3

Installation-Wide Strategy for Environmental Restoration

This section summarizes the current status of environmental restoration projects and ongoing compliance activities at Richards-Gebaur AFB. It also summarizes the status of community involvement to date and describes the environmental condition and suitability for transfer of the base property. The eight sites associated with the base are listed on Table 3-1 and shown in Figure 3-1. This table lists the site number, the site alias identification, type of site, description dates of operation, the hazardous material(s) handled, status, regulatory mechanism and OU. All eight formerly used defense sites (FUDES) are not included in Table 3-1 or are discussed herein. A separate MAP will be prepared for FUDES. The following sections include a brief history of the IRP as it applies to the base, the current status of restoration projects, and the installation-wide source discovery and assessment status.

3.1

IRP Status

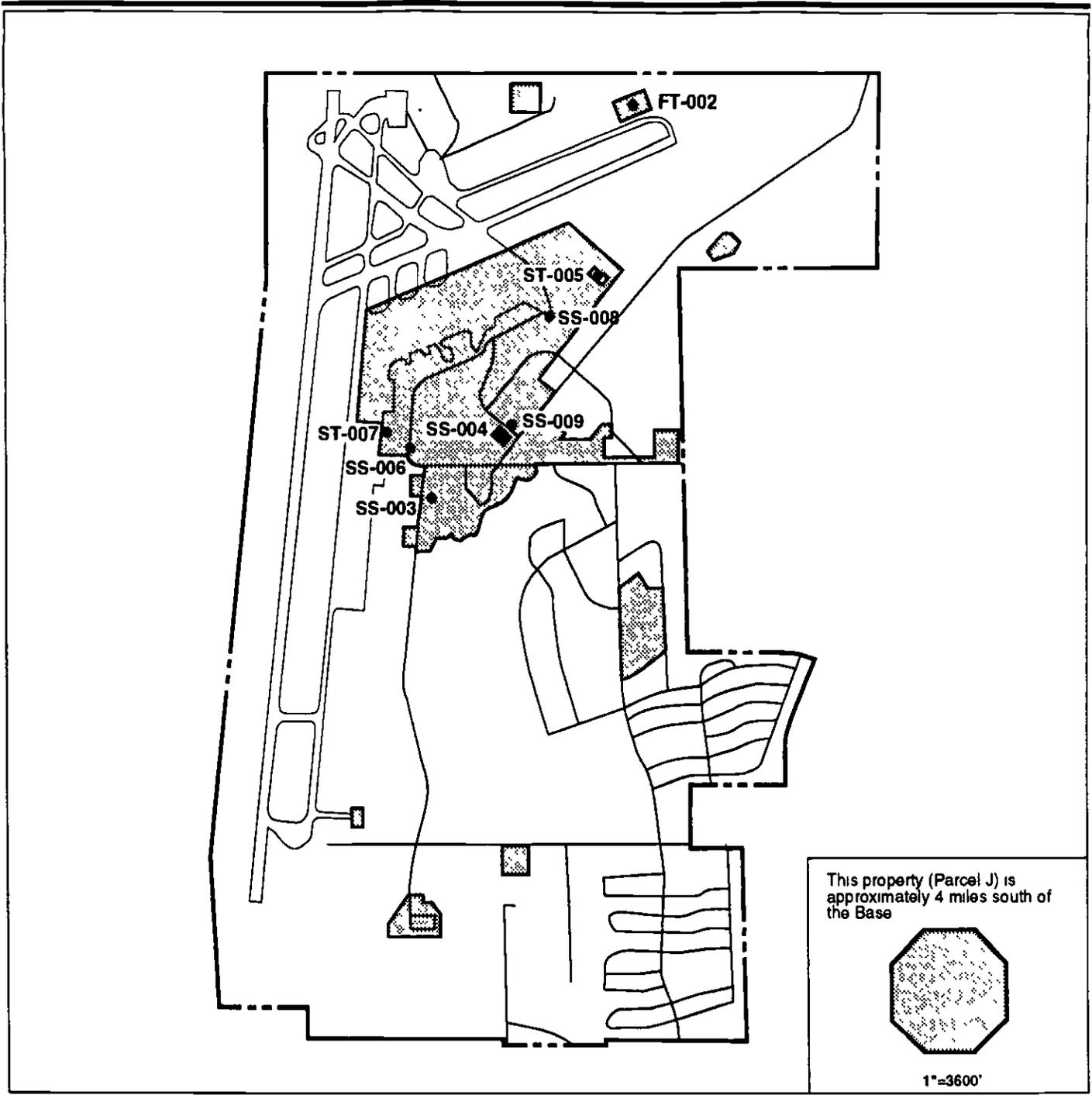
Richards-Gebaur AFB is not on the NPL, but may be reevaluated in the future for inclusion on the NPL. The status of whether EPA Region VII is reevaluating this base as an NPL site remains unknown. However, consistent with Air Force policy, the Project Team addresses all sites in a manner consistent with CERCLA and National Oil and Hazardous Substances Pollution Contingency Plan (NCP). Other regulatory guidelines followed include:

- Resource Conservation and Recovery Act (RCRA), as amended
- NEPA
- The Defense Environmental Restoration Program (DERP)
- Applicable state laws
- Applicable county ordinances.

Table 3-1. Site Summary Table

Site No.	Site Alias	Parcel	Site Class	Site Name (Description)	Material Handled	Date of Operation	Status	Regulatory Mechanism	Operable Unit
FT-002	6	B	IRP Site	North Burn Pit (Fire Training)	JP-4, waste fuel/oil, aqueous film-forming foam	1965-1987	PA/SI & RI completed NFA proposed	Missouri Hazardous Waste Management Law & Rules; Missouri Hazardous Substance Rules	OU-1
SS-003	9	D	IRP Site	Oil Saturated Area	Petroleum, oil and lubricants (POL)	1960s-1989	PA/SI & RI completed NFA proposed	Missouri Hazardous Waste Management Rules, MDNR UST Regulations	OU-1
SS-004	10	D	IRP Site	Hazardous Waste Drum Storage	POL	1960s-1987	PA/SI & RI completed NFA proposed	Missouri Hazardous Waste Management Rules, MDNR UST Regulations	OU-1
ST-005 (SS-010)	12	D	IRP Site	POL Storage Yard	Polynuclear aromatic hydrocarbons (PNA)	1954-Present	RI/FS	MDNR UST Regulations	OU-1
SS-006	NA	D	IRP Site	Hazardous Material Drum Storage	POL	1960s-Present	PA/SI, completed; IRA	State of Missouri Requirements IRP	OU-1
ST-007	NA	D	IRP Site	Leaking UST Under Former Building 902	POL	1954-1985	PA/SI, IRA completed	MDNR UST Regulations	OU-1
SS-008	NA	D	IRP Site	Test Cell Area Soil Contamination	POL	Unknown	PA/SI	State of Missouri Requirements IRP	OU-1
SS-009	NA	D	IRP Site	Fire Valve Area Soil Contamination	POL	Unknown	PA/SI	State of Missouri Requirements IRP	OU-1

Note: Formerly Used Defense Sites (FUDS) are not included since they are not on Richards-Gebaur AFB property
NA = Not Applicable



EXPLANATION

-  Property Currently Owned by Others
-  Property Currently Owned by Richards-Gebaur AFB
-  Base Boundary Prior to 1980

IRP Sites

Site No.	Site Name
FT-002	North Burn Pit
SS-003	Oil-Saturated Area
SS-004	Hazardous Waste Drum Storage
ST-005	POL Storage Yard
SS-006	Haz/Mat Storage B-927
ST-007	UST B-902
SS-008	Test Cell Area
SS-009	Fire Valve Area

Location of IRP Sites

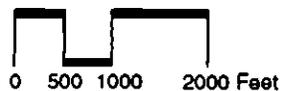


Figure 3-1

Richards-Gebaur AFB has entered into a cooperative agreement with the Missouri Department of Natural Resources (MDNR) for oversight and guidance during the IRP. The agreement, referred to as the Defense-State Memorandum of Agreement (DSMOA), defines state and Air Force responsibilities during the IRP. The state will review, comment, and make recommendations on project plans, identify state applicable or relevant and appropriate requirements (ARARs), participate in Technical Review Committees (TRCs), and designate a state project manager to participate in planning and review.

Richards-Gebaur AFB has taken definitive actions to comply with the Air Force IRP program and the DSMOA. The first action was a site identification and preliminary evaluation of nine sites in 1982. Additional site identification efforts have been made since 1982, adding seven sites to the IRP list generated from the 1982 evaluation for a total of 16 sites. In 1985, Richards-Gebaur AFB returned a significant portion of the base to civilian, or other military branch use, following the regulations in force at that time. Eight of the sites are on transferred property and the responsibility for the restoration of those sites was transferred to U.S. Army Corps of Engineers (COE) in 1985. The remaining eight sites are in the Richards-Gebaur AFB IRP.

The base has made significant progress toward remediating IRP sites. No Further Action Decision Documents have been prepared for four sites; three have been concurred with by the state. The fourth was rejected and a supplemental RI is being conducted. The remaining four active sites are in various stages of the PA/SI or RI/FS program. The identity, location, and current status of restoration activities at each of the IRP sites are discussed below.

3.1.1 IRP Sites

Based on the RI studies conducted to date, the base has been designated as one operable unit (OU 1). Figure 3-1 shows the location of the eight IRP sites within OU 1 at Richards-Gebaur AFB. Table 3-1 summarizes information on these sites. Site Closure Decision Documents (SCDDs) for the four sites (FT-002, SS-003, SS-004, and ST-007) have been prepared and submitted to U.S. Environmental Protection Agency (U.S. EPA) Region VII and the state of Missouri for concurrence. These four sites have been determined by the Air Force to require NFA. However, the NFA decision for Site FT-002 was rejected by the state of Missouri.

A supplemental investigation is nearing completion and a new DD based on the results of this investigation is being prepared. The state of Missouri has concurred with the other three DDs.

Removal or remedial actions taken to date include the removal of 29 cubic yards of contaminated soil from Site SS-003, removal of 15 cubic yards of contaminated soil from Site SS-004, and removal of four 25,000-gallon USTs from Site ST-007 (Table 3-2). All contaminated soil was transported from the base by a licensed hauler to a state-approved special waste landfill.

Removal actions have been programmed for fiscal year (FY) 1993 and FY 1994 to remove source areas or control known contamination. Source areas at Sites SS-006, SS-008, and SS-009 are scheduled for removal actions. Site SS-008 is currently scheduled for a removal action, but further investigation must first be completed. Bioventing is planned as an IRA for Site SS-008 and treatability will be conducted in conjunction with the IRA. An IRA is underway at Site SS-006 where removal of approximately 40 cubic yards of soil contaminated by polynuclear aromatics (PNAs) should be completed by November 1993. Completed and ongoing removal actions are shown on Table 3-2. All contaminated soil removed at the base is transported from the base by a licensed hauler to a state-approved special waste landfill.

A PA/SI evaluation is being planned at the Fire Valve Area (Site SS-009) and a PA/SI is being conducted at Site SS-008 to determine the nature and extent of contamination.

3.1.2

Installation-Wide Source Discovery/Assessment Status

In September 1982, a Phase I IRP Records Search was initiated to identify and perform a preliminary evaluation of past waste disposal sites. The Phase I study included interviews with employees of the base and a base tour in 1982. The study identified nine potential waste sites.

A Phase II Confirmation and Quantification Stage 1 Report was prepared for two sites (now FUDS sites) in 1985. By 1988, 13 IRP sites had been identified and a Phase II, Stage 2 Report was prepared for seven of these sites. This study provided site-specific soil and groundwater quality data

Table 3-2. Completed and Ongoing Removal Action Status

Site Number	Action	Objective	Time Frame
SS-003 Oil Saturated Area	Removal of 29 cubic yards of contaminated soil and disposal at a state-approved "special waste" landfill	To remove oil stained area	Completed on 2 April 1992
SS-004 Hazardous Waste Drum Storage Area	Removal of 15 cubic yards of contaminated soil and disposal at a state-approved "special waste" landfill	To remove "hot spot" contaminated with petroleum hydrocarbons	Completed on 2 April 1992
ST-007 UST (Under Former Building 902)	Removal of four 25,000-gallon USTs	Removed four tanks not being used	January through October 1988
SS-006 Hazardous Material Storage Building 927	Interim Removal Action of approximately 40 cubic yards of contaminated soil and disposal at a state-approved "special waste" landfill	To remove soil contaminated with PNAs	Completion by November 1993
SS-009 Fire Valve Area	Removal of 10 cubic yards of contaminated soil and disposal at a state-approved "special waste" landfill	To remove soil contaminated with petroleum hydrocarbons	Completed on ?

UST = underground storage tank

needed to evaluate and help determine the need for remediation. Since 1986, three additional sites have been identified for a total of 16 IRP and FUDS sites.

More detailed RIs were conducted on the eight sites that remain in the Richards-Gebaur AFB IRP. The assessment work has been completed for three sites (SS-003, SS-004, ST-007) where no further RA is currently planned. DDs for these 3 sites recommending an NFA have been accepted by the MDNR. Of the remaining five sites, two (ST-005 and FT-002) are in the RI/FS stage. Two sites (SS-008 and SS-009) require additional PA/SI work (see Table 3-1). The PA/SI at Site SS-006 is complete and this site is undergoing a interim removal action (IRA). Data from sites SS-006, SS-008, and SS-009 show that contamination is limited and that the assessment will demonstrate that removal actions will be sufficient to complete the remediation of these sites. Site SS-008 is currently scheduled for a removal action but further investigations must first be completed. The assessment of ST-005 indicates that a long-term RA will be needed to complete the remediation of that site. Site FT-002 does not have a long-term strategy, but remedial options being considered include capping, soil stabilization, and soil removal.

An EBS was initiated in April 1993. The EBS may identify new points of interest (POIs) and will evaluate and review the status of existing sites. The Environmental Impact Analysis Process (EIAP) was also initiated in April 1993.

3.1.3

Past Restoration Schedule

Table 3-3 summarize the past restoration schedule for all sites on the base. Appendix B includes tables of historic project deliverables. In addition, a future deliverable schedule is included as Figure 4-1 of this document.

Legend	□	Preliminary Assessment
	▲	Phase II Confirmation and Quantification Stage II
	DD	Decision Document
	FS	Feasibility Study
	IRA	Interim Remedial Action
	RA	Remedial Action
	RD	Remedial Design
	RI	Remedial Investigation
	SI	Site Inspection
	NFRAP	No Further Remedial Action Planned
	SRI/FS	Supplemental RI/FS

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
6 North Burn Pit											
FT-002	□					▲		DD	RI	SRI/FS	
9 Oil-Saturated Area											
SS-003	□					▲		DD	IRA/DD RI	RA/Closure DD	
10 Hazardous Waste Drum Storage											
SS-004						▲		DD	IRA/DD RI	RA/Closure DD	
12 POL Storage Yard											
ST-005						▲	SI		RI	RI/FS	
13 Hazardous Material Drum Storage											
SS-006									□	SI	
14 Leaking UST (Former Bldg. 902)											
ST-007										NFRAP	
15 Test Cell Area											
SS-008											*
16 Fire Valve Area											
SS-009											*

* PA/SI documentation being completed Please refer to Table B-2 (Appendix B).

Table 3-3
Actual Restoration Schedule

3.2 Compliance Program Status

Compliance activities at Richards-Gebaur AFB are being coordinated with environmental restoration activities under the IRP. The base does not have any RCRA-permitted facilities. Compliance activities address management of POL, hazardous materials, hazardous waste, solid waste, water quality, air quality, pesticides, and polychlorinated biphenyls (PCBs).

Consistent with the U.S. Department of Defense policy issued in November 1991, the Richards-Gebaur AFB Project Team will respond to certain compliance-related releases under the IRP, such as releases or suspected releases from USTs. In cases where significant residual contamination from compliance activities has commingled with contamination from IRP sites, remedial response will occur under the IRP. Corrective action and closure activities will remain compliance issues. A breakdown of the status of compliance activities is presented in Table 3-4.

3.2.1 UST Sites

Table 3-5 summarizes the physical characteristics and status of all USTs installed at Richards-Gebaur AFB. Since heating oil tanks are not regulated USTs, they are not included in the table. There are currently 15 state-regulated USTs on base. The state record-keeping requirement for six USTs expired in 1992. At one time, a total of 21 USTs were under state regulations. None of the tanks are associated with IRP sites.

Richards-Gebaur AFB has two 4,000-gallon USTs, located along the flightline, that are currently in use. Four tanks were removed from the former tank site (ST-007) under the IRP program in 1988. The base also has four aboveground storage tanks in use: two at the POL storage yard and two at Facility 701. An abandoned hydrant fuel system also exists on base. All base heating oil tanks and associated piping have been removed, and each site was closed in accordance with the state fire marshal's standards. The base will also be removing the existing oil/water separators.

Table 3-4. Compliance Projects

Program	Status	Regulatory Program
Underground storage tanks (USTs)	Please refer to Table 3-5.	Missouri UST Program
Hazardous materials/waste management	Hazardous wastes are placed at one 90-day central accumulation point. Waste is transported off base and disposed of by a licensed contractor.	Missouri RCRA Program
PCB storage inspection/removal	No PCBs on base. Transformers with PCBs purged and refilled with non-PCB containing oils, and retested and found to be negative.	Toxic Substances Control Act (TSCA) regulations, U.S. EPA and Air Force policy
Asbestos	Basewide survey completed in 1987. Building 942 closed. No abatement proposed. Potential reuse parties will be informed of the presence of asbestos.	AHERA
NPDES sampling (storm water)	NPDES permit submitted in late 1992. The state is currently reviewing the application.	NPDES Permit
Aboveground fuel storage tanks	Four tanks currently in use. Tank contents will be assessed.	Missouri RCRA
Abandoned fuel hydrant system	Assessment scheduled in 1993; remedial action based on assessment results; programmed.	Missouri RCRA
Oil/Water Separators	Assess separators, and upgrade or abandon separators.	Missouri UST Program

Table 3-5. Summary of Underground Storage Tanks and Status

Tank Identification	Tank Size (gallons)	Contents	Installation Date	Tank Status and Funding
620A	6,000	ACID	Unknown	Removed July 1988, RCRA closure; UEBL92-0034
702A	10,000	GAS	1954	Removed 18 December 1989; retain records until 18 December 1992
702B	10,000	GAS	1954	Removed 18 December 1989; retain records until 18 December 1992
702D	190	WOL	1989	Replacement with aboveground tank; UEBL92-0034
704C	500	MIX	1975	Replacement with aboveground tank; UEBL92-0034
704D	282	WOL	1989	Replacement with aboveground tank; UEBL92-0034
711A	5,000	JP4	Unknown	Removed mid-1989; retain records until 31 December 1992
711C	500	MIX	Unknown	Replacement with aboveground tank; UEBL92-0034
711D	282	WOL	1989	Replacement with aboveground tank; UEBL92-0034
903A	250	DSL	Unknown	Status unknown; possibly abandoned
920A	200	MIX	1973	Replacement with aboveground tank; UEBL92-0034
920B	500	WOL	1973	Replacement with aboveground tank; UEBL92-0034
927A	300	W&O	Unknown	Closed in place in 1989; retain records until 31 December 1992
927B	500	WOL	1989	Replacement with aboveground tank; UEBL92-0034
940A	500	WOL	Unknown	Replacement with aboveground tank; UEBL92-0034
947A	6,000	SOAP	1958	Removed February 1989; retain records until 29 February 1992
962A	4,000	JP4	1983	UEBL 94-6011; will remove in 1994
962B	4,000	GAS	1983	UEBL 94-6011; will remove in 1994
1800A	275	GAS	1957	Removed 1989; retain records until 31 December 1992
9740B	1,000	MIX	1973	Replacement with aboveground tank; UEBL92-0034
9740D	282	WOL	1989	Replacement with aboveground tank; UEBL92-0034

ACID = neutralized battery acid
 DSL = diesel
 GAS = gasoline
 JP4 = jet fuel, grade 4
 MIX = a mix of water and WOL
 SOAP = stoddard solvent based cleaning compound
 W&O = both MIX and WOL in one unit
 WOL = oil/water separator skimmings

3.2.2

RCRA, NPDES, PCBs, Other

In addition to the UST program, compliance activities at the base include:

- Hazardous waste management in accordance with RCRA regulations.
- Discharge from oil/water separators in compliance with publicly owned treatment works (POTW) requirements.
- The NPDES permit application for storm water discharge was submitted in late 1992. The state of Missouri requires the base to continue with this application even if the base is scheduled for closure. The base is conducting surface water sampling as part of the storm water application.
- The base has had PCB-containing transformers retrofilled with non PCB-containing fluid. The Final PCB Survey was completed by September 1990; all transformers tested below 50 parts per million (ppm) and can be classified as PCB-free.

The base is considered to be a small quantity generator (SQG) and has 21 1-year satellite accumulation points for hazardous materials and one central accumulation point where the hazardous materials from the satellite accumulation points are transported prior to disposal. Details regarding accumulation of hazardous waste are discussed in the EBS-in-progress. The central accumulation point is considered to be a 90-day storage area. Hazardous waste at the central accumulation area is handled by the Defense Reutilization and Marketing Office (DRMO) and an off-base disposal agency.

A basewide asbestos survey was completed in 1987. The results of this survey will be detailed in the EBS scheduled to be released in December 1993. The base has identified one building (Building 942) as containing friable asbestos. The building has been closed and no abatement is planned. Potential reuse parties will be informed of the presence of the asbestos.

Investigations are also ongoing for lead at the Small Arms Range, contamination of surface streams for the National Pollutant Discharge

Elimination System (NPDES) permit, contamination around the detention pond near the POL storage yard, and for contamination associated with the abandoned hydrant piping system.

3.3

Status of Community Involvement

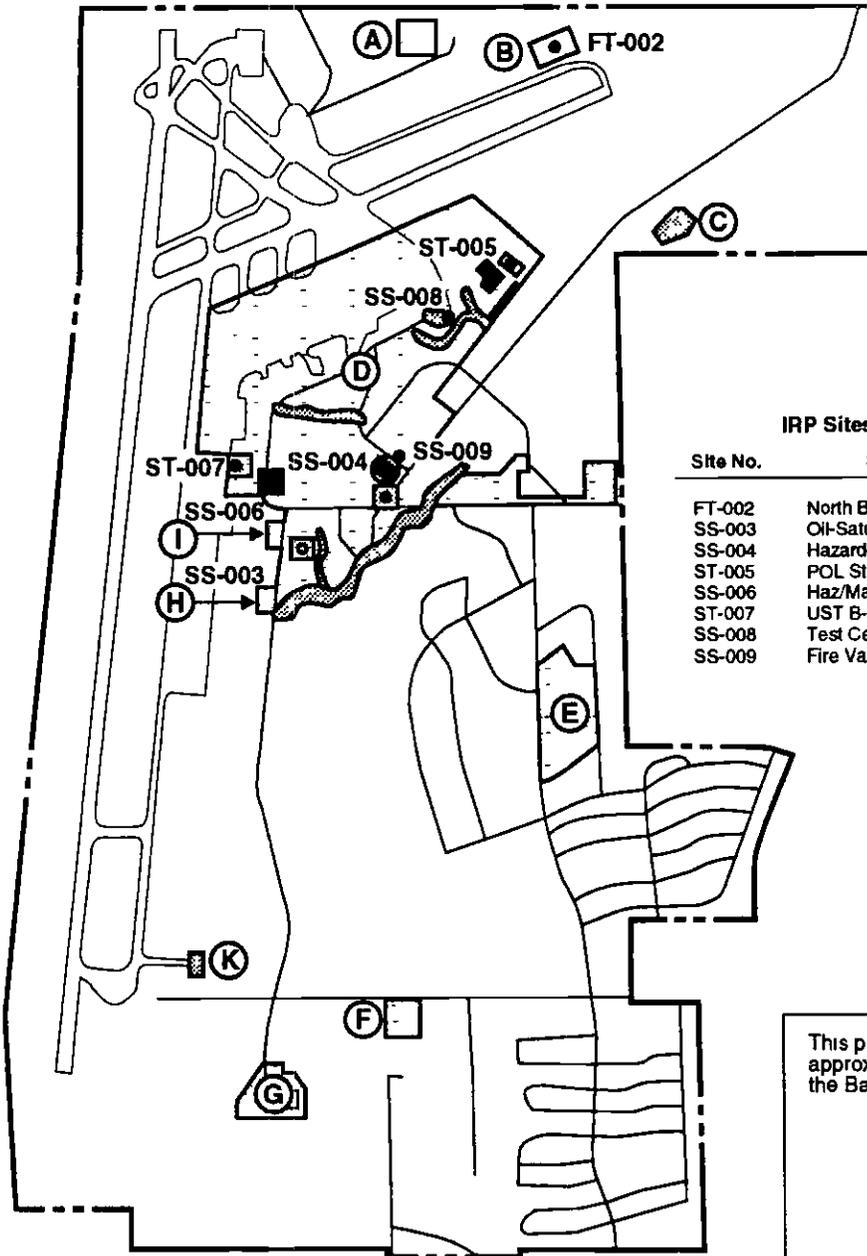
Following the announcement of the base closure in 1991, Richards-Gebaur AFB met with the MDNR and community leaders to plan for the disposal and reuse of Richards-Gebaur AFB property. This is the only community activity that has occurred to date. The base plans to prepare fact sheets and hold additional public meetings when RAs are selected for the four IRP studies currently in the RI/FS or PA/SI phase. Community meetings are planned to present base closure and IRP activities.

A Community Relations Plan (CRP) will be developed by base closure detailing how the base intends to involve the community in base restoration and disposal activities. The plan will include an updated mailing list. An Administrative Record is located in the base Public Affairs Office in the Public Information File and in Building 606, Base Engineering, and is maintained by the RPM. The TRC will consist of the same individuals who are members of the Project Team. The TRC will meet as required.

3.4

Environmental Condition of Property

To date, IRP investigations on the environmental integrity of soils and groundwater at Richards-Gebaur AFB have revealed isolated occurrences of contamination. As a result, preliminary assessments, site inspection, and feasibility studies are in place or are being planned for areas of known contamination. In addition, Richards-Gebaur AFB is currently conducting an EBS. An internal working draft of the EBS was released for Air Force review in September 1993. An environmental condition of property map (Figure 3-2) has been developed which incorporates preliminary information from these environmental site characterizations. One area (Site ST-005) contains concentrations of released substances



IRP Sites

Site No.	Site Name
FT-002	North Burn Pit
SS-003	Oil-Saturated Area
SS-004	Hazardous Waste Drum Storage
ST-005	POL Storage Yard
SS-006	Haz/Mal Storage B-927
ST-007	UST B-902
SS-008	Test Cell Area
SS-009	Fire Valve Area

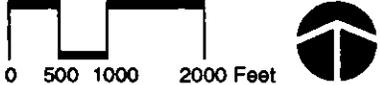
This property (Parcel J) is approximately 4 miles south of the Base

1"=3600'

EXPLANATION

- Property Currently Owned by Others
- Unevaluated Area (Base Property)
- Area of No Suspected Contamination (Base Property)
- Contamination Above State Guidance (Base Property)
- Contamination Below State Guidance (Base Property)

Parcel ID	Description
A	Communications Transmitter
B	Fire Training Area
C	Rifle Range
D	Fightline Industrial
E	Billeting
F	1100 Area
G	1200 Area
H	Weapons Release
I	Contracting
J	Drop Zone (Belton, MO)
K	Hazardous Material Drum Storage



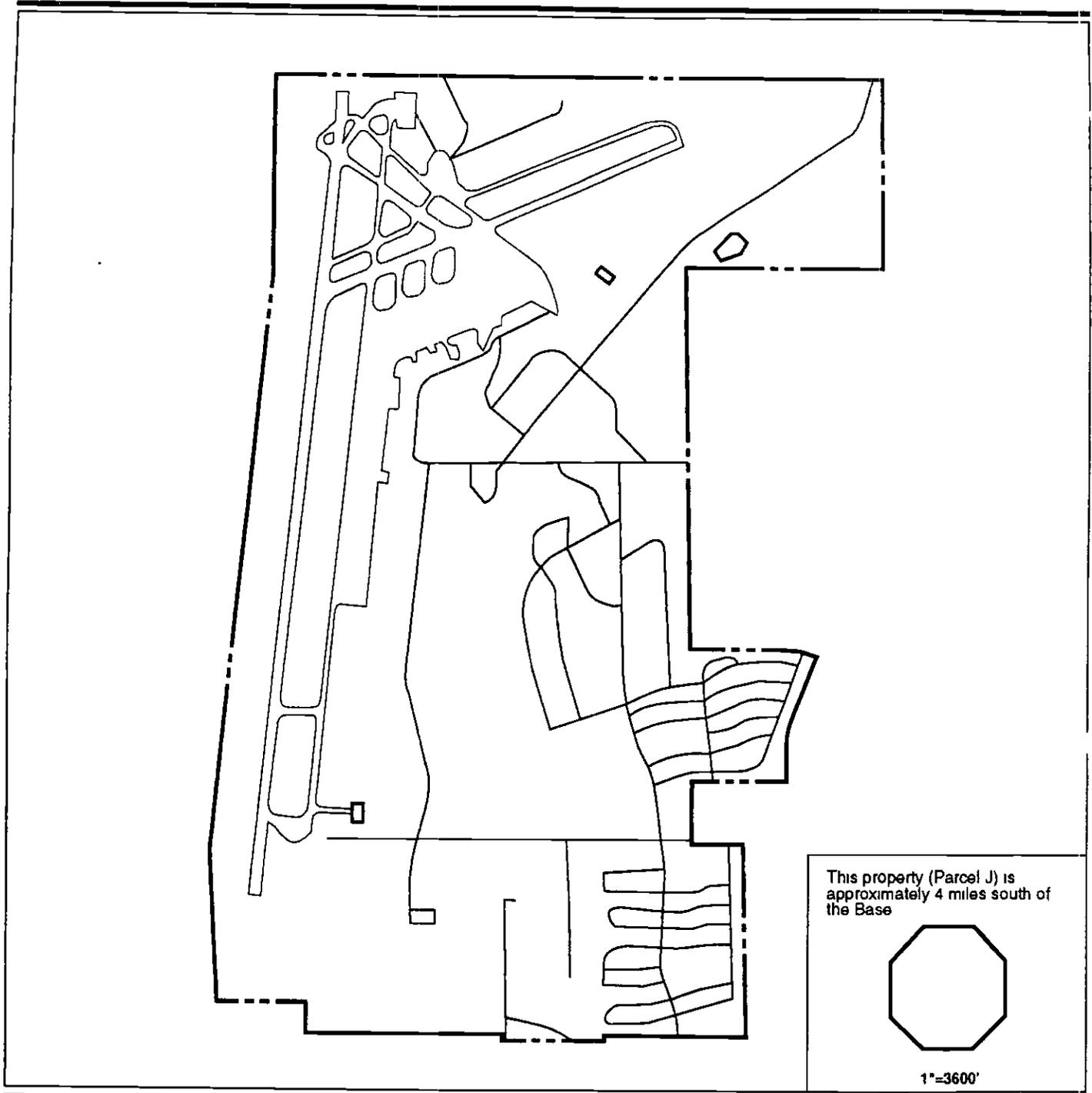
--- Base Boundary Prior to 1980

Preliminary Environmental Condition of Property

Figure 3-2

above recommended total petroleum hydrocarbon active levels under state UST regulations. Site FT-002 is currently being investigated. The boundaries of these areas are dynamic and will be adjusted as more site characterization data become available. ARARs are being developed. When prepared, Figure 3-3 will show the contours of concentrations of principal contaminants. Figure 3-2, when completed, will indicate the current status of the environmental condition of the 11 reuse parcels at Richards-Gebaur AFB. The environmental condition of Richards-Gebaur's property is described under three major headings: areas of known contamination, areas of no suspected contamination, and unevaluated areas. The EBS, when completed in December 1993, will describe the environmental condition of base property in the following seven areas.

- Areas where no storage, release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas)
- Areas where only storage of hazardous substances or petroleum products has occurred (but no release, disposal, or migration from adjacent areas has occurred)
- Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but at concentrations that do not require a removal or remedial action
- Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, and all remedial actions necessary to protect human health and the environment have been taken
- Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, removal and/or remedial actions are underway, but all required remedial actions have not yet been taken
- Areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but required response actions have not yet been implemented
- Areas that are unevaluated or require additional evaluation.



EXPLANATION

TBD

----- Base Boundary Pnor to 1980

**Concentration of
Principal
Contaminants**

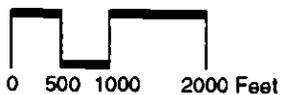


Figure 3-3

3.4.1

Areas of Known Contamination

Richards-Gebaur AFB properties to be shown on Figure 3-2 under this category include those areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but at concentrations that do not require a removal or remedial action; areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, and all remedial actions necessary to protect human health and the environment have been taken; areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, removal and/or remedial actions are under way, but all required remedial actions have not yet been taken; and areas where storage, release, disposal, and/or migration of hazardous substances or petroleum products has occurred, but required response actions have not yet been implemented.

3.4.2

Areas of No Suspected Contamination

Richards-Gebaur AFB property to be shown on Figure 3-2 as uncontaminated property is areas of the base where no storage, release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas); and areas of the base where only storage of hazardous substances or petroleum products has occurred (but no release, disposal, or migration from adjacent areas has occurred).

3.4.3

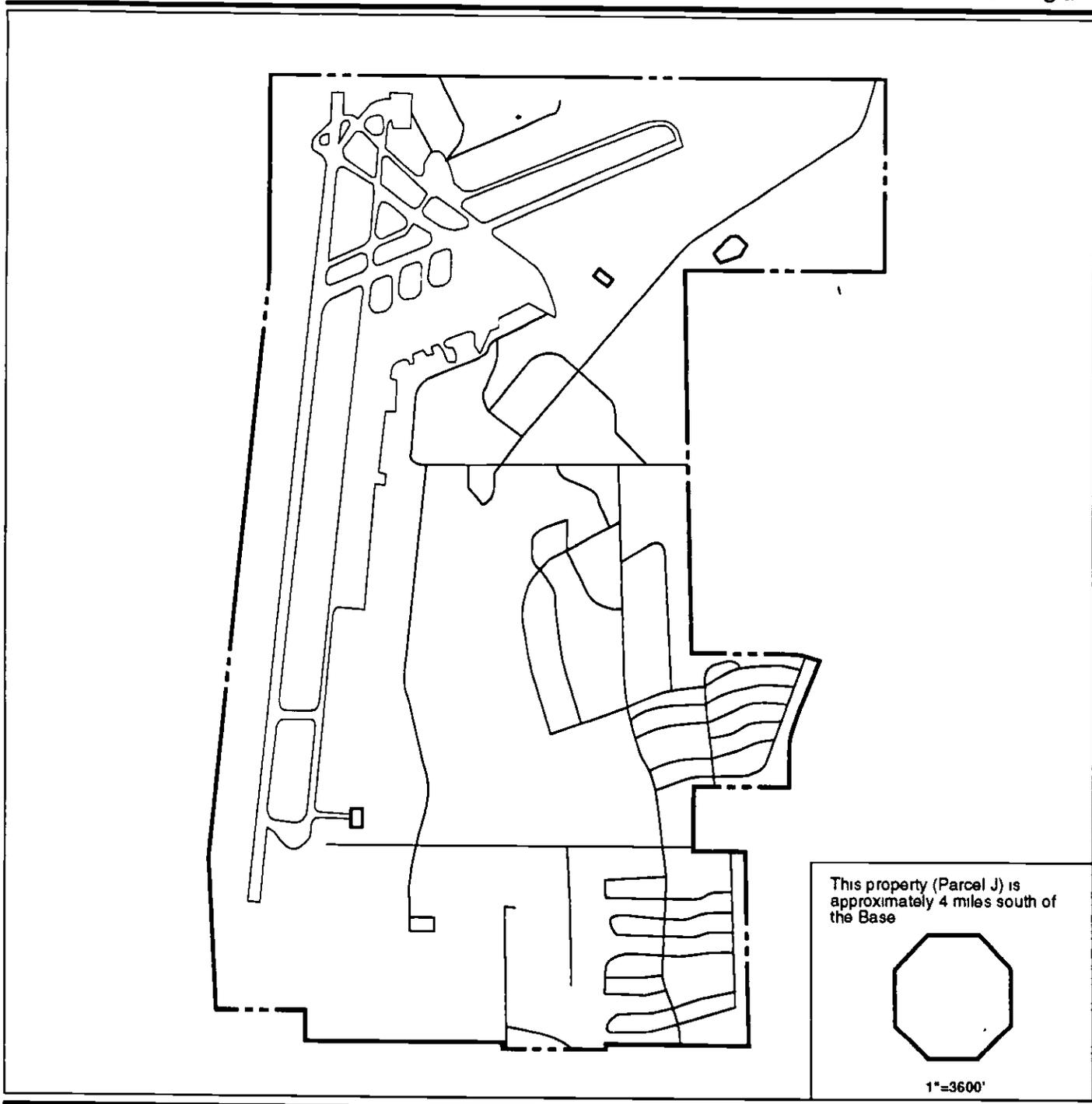
Unevaluated Areas

Property at Richards-Gebaur AFB is currently being evaluated under the EBS.

3.4.4

Suitability of Transfer by Deed of Installation Property

Areas determined to be suitable for transfer by deed have not been identified. Figure 3-4 will be completed upon determination of areas suitable for transfer by deed.



EXPLANATION

TBD

----- Base Boundary Prior to 1980

**Suitability of Property
for Transfer**



This property (Parcel J) is approximately 4 miles south of the Base

1"=3600'

Figure 3-4

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Chapter 4

Installation-Wide Strategy For Environmental Restoration

The purpose of this chapter is to summarize the installation-wide environmental restoration and compliance strategy for Richards-Gebaur AFB. Prior to announcement of base closure, base strategies were focused primarily on restoration and compliance activities. In addition to the commitment to investigate and remediate existing IRP sites, Richards-Gebaur AFB will identify additional areas of potential contamination to determine whether these areas should be designated areas of concern (AOCs) requiring further assessment work. As additional areas of contamination are identified, they will be incorporated into the most expedient cleanup method. Basewide strategies are now focused on restoration and compliance activities as they relate to the disposal and reuse of the property.

4.1

Zone/OU Designation and Strategy

4.1.1

Zone Designations

Strategy. As part of the ongoing IRP, Richards-Gebaur AFB conducted environmental restoration investigations within a basewide zone. This strategy has not changed. Because of the small number of IRP sites and other remediation activities taking place and planned for the base, the Project Team will continue to use a basewide zone designation.

Actions/Recommendations. None at this time.

4.1.2

OU Designations

Strategy. The strategy used to establish the OUs on Richards-Gebaur AFB was based on the RI findings to date and resulted in the designation of one OU for the base. The OU was selected based on geographical proximity of IRP sites: seven of the eight IRP sites are located within one disposal parcel, which is also the largest parcel (Parcel D). The North Burn Pit in Parcel B is the only other IRP site outside Parcel D.

All IRP sites are being studied and remediated on an individual basis within this OU.

Actions/Recommendations. As investigative studies continue, additional sites may be identified. In this case the Project Team will continue to evaluate whether the basewide OU designation is the most appropriate approach. Should a significant number of sites be added to the environmental investigation activities, the Project Team may consider dividing the base into more than one OU to more efficiently organize property disposal activities.

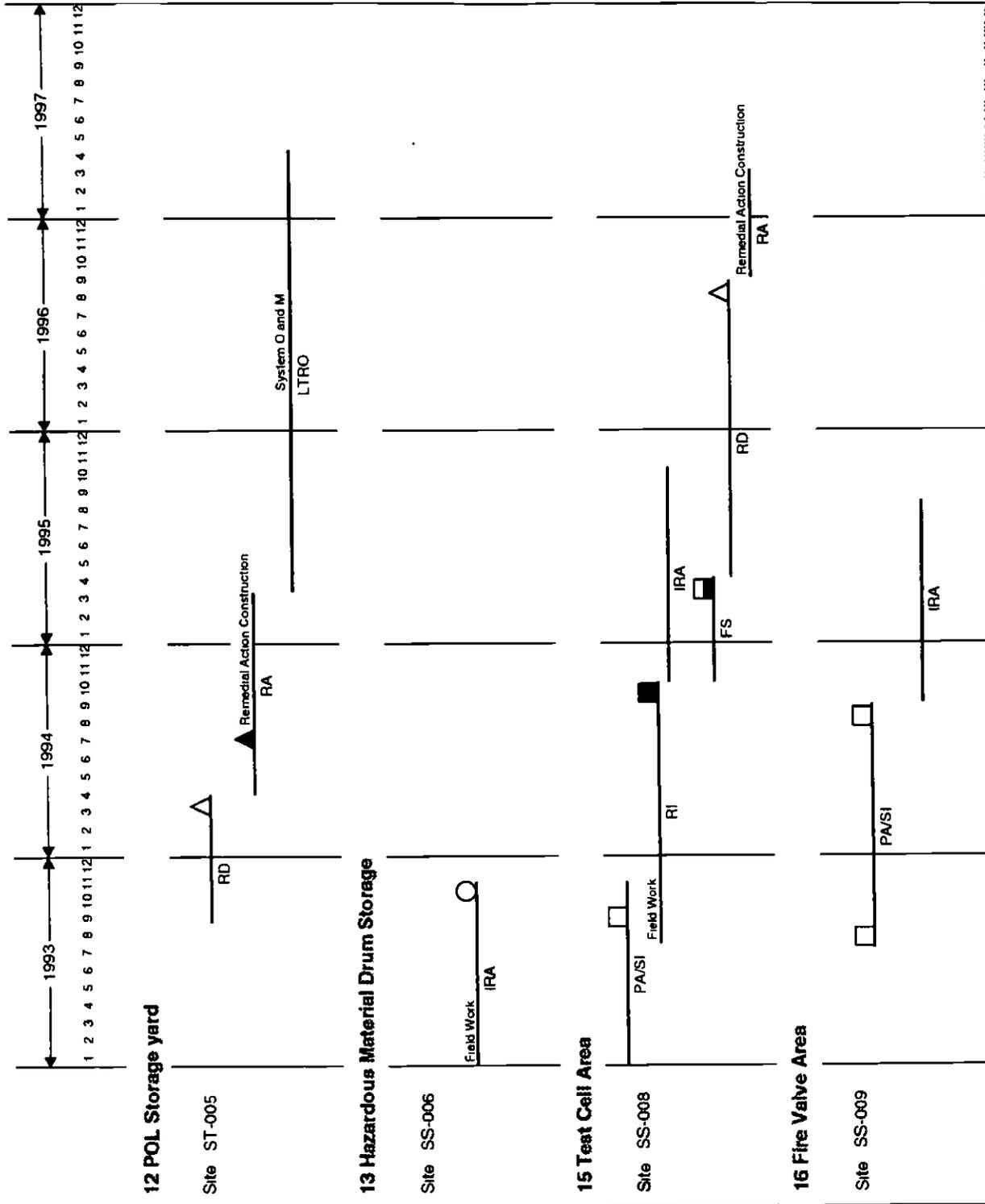
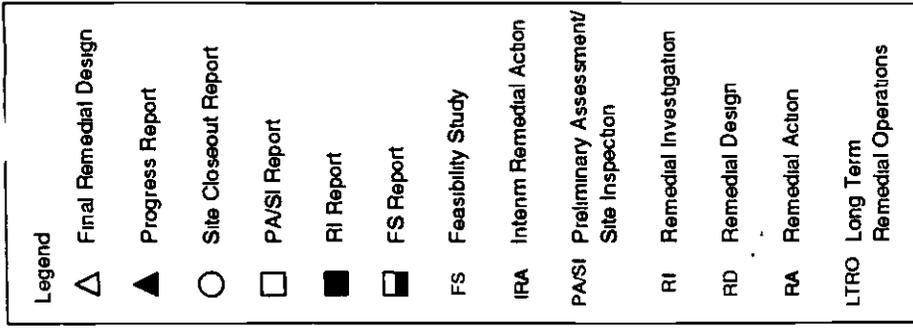
4.1.3 Sequence of OUs

Strategy. A strategy to consider the reuse priorities in determining the sequence and schedule of ongoing and new restoration activities within OU 1 has not been developed. The proposed schedule of programmed activities for OU 1 (Figure 4-1) is based on areas identified as having contamination and on the need to define and implement a remedial program. The Project Team has projected the sequence and schedule of remediation activities through FY 1998 to include remedial design/remedial action (RD/RA) and continued assessment programs.

Actions/Recommendations. The Project Team will consider the reuse priorities when determining the sequencing and scheduling of remediation activities at individual sites. In addition, the Project Team will develop long-term sequencing of remediation activities and the associated document schedule to ensure that schedule goals and requirements will be met and that the restoration activities are in line with compliance schedules and property disposal and reuse priorities.

4.1.4 Removal Actions and Treatability Studies

Strategy. The present Richards-Gebaur AFB strategy is to remove source areas prior to completing the RI activities. This strategy has been applied to areas where contamination is localized. The results of the RI



Richards-Gebaur Air Force Base, Missouri - 19 October 1993

Figure 4-1
Restoration Schedule and Deliverable Dates

or removal action will be used to confirm whether the contamination source has been removed to the required action levels. There is one surface spill removal action planned for IRP Site SS-006. The extent of contamination at this site is thought to be limited, and a removal action prior to the RI may be sufficient to remedy the problem without the need for further IRP activities. Site SS-008 is scheduled for a removal action, but further investigation must first be completed. Bioventing is planned as an IRA for this site and treatability will be conducted in conjunction with the IRA. If applicable, Richards-Gebaur AFB will either obtain a permit or a de minimis ruling from the Air Pollution Control District. Table 4-1 provides a summary of the planned removal actions and treatability studies. The appropriate post-closure control, if required, will be coordinated with U.S. EPA and the state.

Actions/Recommendations. None at this time.

4.1.5

Community Relations Strategy

Strategy. The community relations strategy at Richards-Gebaur AFB is being developed. A draft CRP incorporating MAP requirements will be written. The draft plan is expected to be released for review in 1993. Richards-Gebaur AFB maintains an Administrative Record at the base RPM office. Meetings will be held during and after the completion of the disposal and reuse EIS and development of a parcel disposal and reuse plan. The TRC will be formed, with its members the same as those of the Project Team. The Project Team meets quarterly. Fact sheets will be published and public meetings will be held to discuss RAs prior to their implementation. Public meetings will be held during and after completion of the disposal and reuse EIS and while the parcel disposal and reuse plan is developed.

Actions/Recommendations. None at this time.

4.1.6

Remedy Selection Approach

Richards-Gebaur AFB has entered into a cooperative agreement with the MDNR for oversight and guidance during the IRP. The agreement, referred to as the DSMOA, defines state and Air Force responsibilities

Table 4-1. Planned Removal Actions and Treatability Studies

Site Name	Removal Action	Objective	Time Frame (Calendar Years)
SS-008	Remove approximately 80 cubic yards soil	Remove source area	1994/1995
SS-009	Remove approximately 50 cubic yards soil	Remove source area	1994/1995

during the IRP. The state will review, comment, and make recommendations on project plans, identify state ARARs, participate in TRCs, and designate a state project manager to participate in planning and review.

Strategy. RA approaches for the current IRP sites, as well as future identified sites, will be addressed individually. Remedies will be selected in accordance with the DSMOA. The Richards-Gebaur AFB Project Team will involve all relevant parties in the remedy selection process. The base is not on the NPL; however, the tools provided by the NCP/CERCLA process provide the base with procedures to consider when selecting remedies. In their review of the document and evaluation of potential remedial alternatives, the Project Team will specifically address the following:

- **ARARs.** Applicable regulatory and technical requirements for anticipated RAs or interim RAs will be fully identified through Project Team meetings.
- **ARAR waivers.** The effectiveness of alternatives in reducing concentrations of contaminants to chemical-specific ARARs will be evaluated. Waivers will be considered where treatment to standards is technically impractical.
- **Land use/risk assessment.** Where future uses are known, risk assessment protocols will incorporate future land use considerations in developing exposure scenarios.
- **Alternate concentration limits (ACLs).** ACLs will be considered during the FS as groundwater protection standards to be applied in determining points of compliance for certain on-site contaminant plumes.
- **Treatability studies.** Effective treatability studies will be incorporated into DDs when needed to support performance-based RAs.

Actions/Recommendations. None at this time.

4.1.7

Remedy Selection Approach for Petroleum-Contaminated Soils and Groundwater

Strategy. The strategy for petroleum-contaminated soils is based on the size of the contaminated area. Where the volume of contaminated soil is believed to be small, a strategy of removing the source by excavation and disposal will be used. The immediate area of interest will be excavated and the soil disposed in an approved manner based on the level of contamination. Soil sampling will follow to confirm that contamination is below action levels. Should sample results indicate the continued presence of petroleum above action levels, the Project Team will consider whether further removal is required or if other methods will be necessary to remediate the contaminated site. The cleanup level for total petroleum hydrocarbon (TPH) soil contamination is determined through the DSMOA process, and is site-specific.

The strategy to address sites involving large volumes of petroleum-contaminated soil is being developed. No evidence of groundwater contamination currently exists. The Project Team at Richards-Gebaur AFB is working with U.S. EPA and the state to determine the most appropriate remedial response methods for petroleum-contaminated soil. One method being considered as an alternative for a remedial response method is monitoring and assessment of natural degradation. This action will include monitoring of the underlying groundwater to evaluate the potential migration of contaminants into the groundwater.

Actions/Recommendations. During the consideration of each of the proposed remedial approaches, the Project Team will consider all identified reuse and disposal priorities prior to final selection of an action.

4.1.8

Environmental Condition and Suitability for Transfer Strategy

Strategy. As environmental restoration activities proceed, the environmental condition of parcels will likely change status. The preliminary environmental-condition-of-property map that has been prepared will be verified and modified as results from the scheduled

EBS, other assessment projects, and reuse and disposal options become available.

Actions/Recommendations. The Project Team will develop a process to update the environmental-condition-of-property map and data base as results from the environmental investigations and remediation activities become available. The Project Team will also develop a process of reviewing and verifying the data of previously identified and new POIs. The specific strategy for developing and maintaining the suitability-of-transfer map will be completed and implemented by the Project Team.

4.2 Compliance Strategy

This section summarizes the strategies for compliance activities at Richards-Gebaur AFB. These activities include USTs, PCBs, NPDES, and other compliance issues.

4.2.1 Underground Storage Tanks

The UST activities scheduled include the following:

- Monitor, on a monthly basis, the two regulated tanks in use.
- Tanks will be removed in FY 1994.
- Upgrade or abandon all oil/water separators in 1993. A contract has been negotiated to complete this work.

4.2.2 RCRA, NPDES, PCBs, Other

The following compliance activities occurred in FY 1993:

- Submitted necessary NPDES storm water permit application. Awaiting issuance of permit.

Chapter 5

Environmental Restoration/Compliance Program

Master Schedule

This chapter presents the Richards-Gebaur AFB master schedule for activities anticipated in the base environmental restoration and compliance programs. These schedules are simplified versions of detailed schedules developed to support site-specific environmental restoration activities.

5.1

Installation Restoration Program

5.1.1

Response Schedule

Planned restoration activities are summarized in the master schedule shown in Figure 5-1. The Richards-Gebaur AFB program includes eight IRP sites; seven of these are located on Parcel D and one on Parcel B. Three sites have been recommended for NFA under the IRP and five are in the assessment phase.

The ability to meet the milestones shown in the master schedule hinges on (1) the successful completion of planned PA/SI studies, (2) the timely review of documents supporting the environmental restoration activities, and (3) the availability of funds.

5.1.2

Requirements by Fiscal Year

Funding and scheduling for environmental restoration of the IRP sites has been developed through 1998.

In the Project Team's programming, sites requiring environmental restoration will be given high priorities to facilitate the transfer of the property under CERCLA 120(h). Full funding for each FY requirement is contingent upon approval of budgets. Should the ongoing and

Legend	
△	Final Remedial Design
▲	Progress Report
○	Site Closeout Report
□	PA/SI Report
■	RI Report
▣	FS Report
FS	Feasibility Study
IRA	Interim Remedial Action
PA/SI	Preliminary Assessment/ Site Inspection
RI	Remedial Investigation
RD	Remedial Design
RA	Remedial Action
LTRO	Long Term Remedial Operations

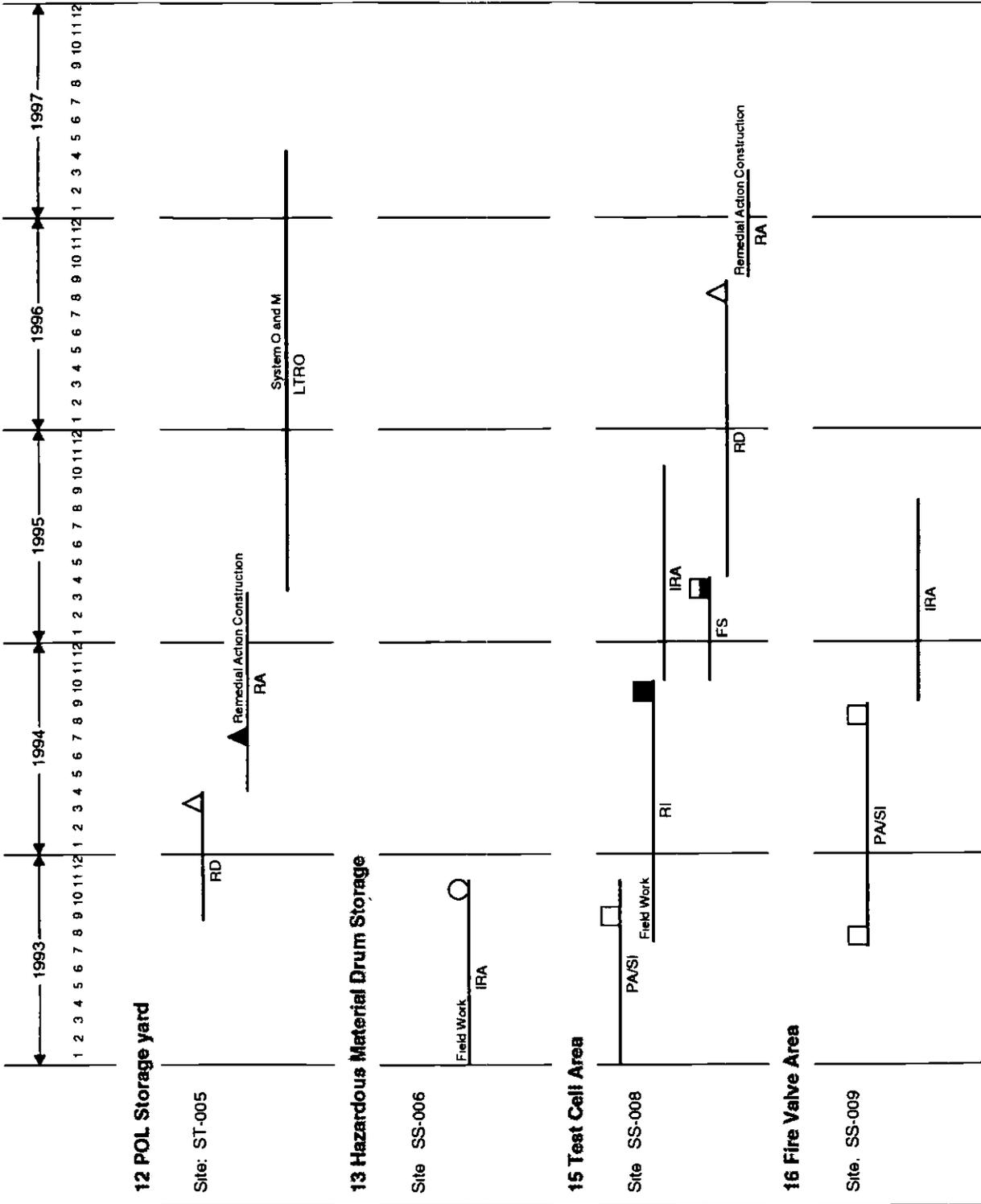


Figure 5-1
Projected Restoration Master Schedule

proposed investigations identify additional unexpected remediation and cleanup activities, it may be necessary to obtain additional funding. However, the funds already allocated are expected to be sufficient. Appendix A includes a table showing the historic and proposed funding requirements for environmental restoration and compliance.

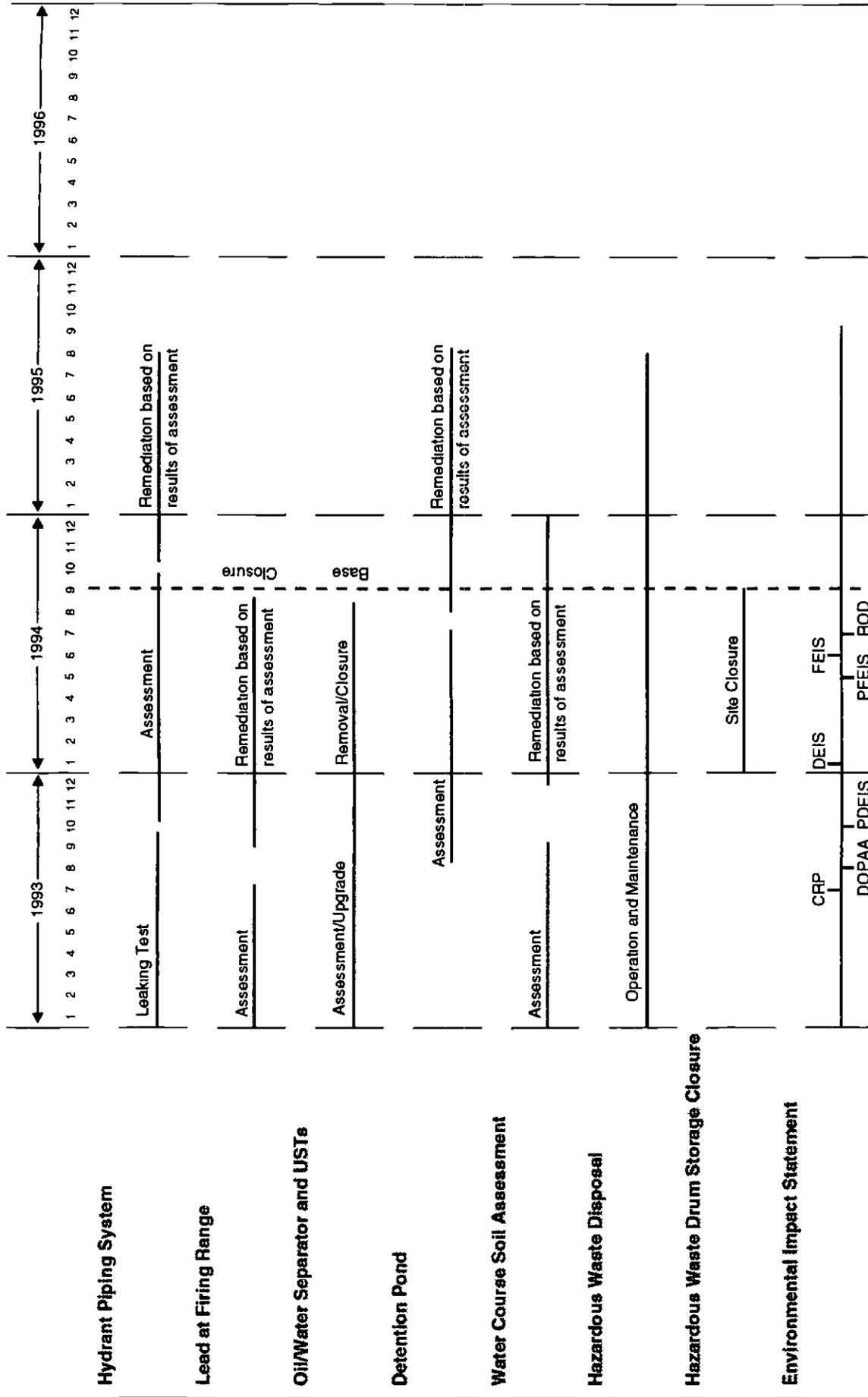
5.2 Compliance Schedule

The compliance schedule for Richards-Gebaur AFB is shown in Figure 5-2. Funding for other compliance projects has been developed through 1995. The compliance schedule is based on the programmed operational schedules for the following:

- The assessment of the abandoned hydrant fuel system
- UST monitoring
- Oil/water separator upgrade and positive removal
- Hazardous waste disposal operations
- Assessment of the detention pond
- Assessment of lead at the firing range
- Closure of 90-day hazardous waste storage area
- Removal of two USTs
- Water course soil assessment.

5.3 Project Team Meeting Schedule

Following is a list of topics discussed in Project Team meetings. As the meetings progress, more topics will be added to the list. Meeting topics include:



Legend

- CRP Community Reuse Plan
- DOPAA Description of Proposed Action and Alternatives
- DEIS Draft EIS
- PDEIS Preliminary Draft EIS
- PFEIS Preliminary Final EIS
- FEIS Final EIS
- ROD Record of Decision

Figure 5-2
Projected Compliance Master Schedule

- Role of individual team members
- Base closure requirements
- RAs for studied sites
- Primary deliverable and remediation schedules
- RI/FS requirements
- Field sampling plan requirements
- Data quality objectives (DQO) and DQO requirements
- Site characterization objectives
- Evaluation of additional areas of the base for suspected contamination.

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Chapter 6

Technical and Other Issues to be Resolved

This chapter summarizes technical and other issues that are yet to be resolved. These issues include historical data usability, information management, and data gaps. This section outlines the rationale, status/strategy, and Project Team action items required to resolve technical issues.

6.1

Data Usability

This section summarizes unresolved issues pertaining to the validity of using historical data sets in the Richards-Gebaur AFB environmental restoration program.

The base will review historical data to evaluate whether adequate QA/QC documentation has been provided. The base and the Service Center will continue to ensure the usefulness of data collected during current and future project phases by continuing to implement and reformulate data quality management procedures.

6.1.1

Project Team Action Items

The following action will be necessary to ensure the usability of historical, current, and future data sets in the Richards-Gebaur AFB environmental restoration program:

- Continue to implement the standardized data quality management procedures.

6.1.2

Rationale

Current and future data from each data collection system (e.g., field laboratory data collection and screening techniques) are critical to the completion of site characterization efforts, risk assessments, and, ultimately, the selection of RAs to protect human health and the environment.

6.1.3 Status/Strategy

The base RPM will coordinate the review of all previous data for quality. The base RPM, in conjunction with the Service Center representative and contractors, will ensure that data produced from ongoing and future reports is reviewed to determine whether:

- Technical specifications were followed
- Accurate and precise data collection was accomplished
- Both field and laboratory quality assurance and quality control documentation is sufficient to validate the data gathered.

Historical data sources will be reviewed. These consist of letter reports, draft work plans, site characterization summaries, and informal technical information reports. The strategies for determining the usability of these data include the following:

- For future field efforts, Richards-Gebaur AFB will follow the structured data collection and documentation process (including electronic formats) in the Service Center Handbook and *IRP Information Management System (IRPIMS) Data Loading Handbook*.
- Richards-Gebaur AFB's RPM, in conjunction with the Service Center representative, will ensure that the field and laboratory audit process will continue to be implemented to allow for project compliance assessment, real-time project quality management, and problem solving through the use of corrective actions.

6.2 Information Management

This section summarizes issues that need to be resolved with regard to managing information gathered and used in the Richards-Gebaur AFB environmental restoration and compliance programs.

6.2.1 Project Team Action Items

The following actions are necessary to ensure that an effective information management system is in place for the Richards-Gebaur AFB environmental restoration program:

- Improve access to, and management of, environmental restoration and real estate data generated at Richards-Gebaur AFB. Data are reviewed by the RPM to identify ANSCs, classify remaining areas on the base as to their site characterization status, and assess data gaps.
- Establish a central clearinghouse for data. This clearinghouse should be a natural extension to the existing IRP Information Management System (IRPIMS) sampling and analysis data base at the Service Center, and should also include spatial data (e.g., past and present land use, natural resources).
- Require all contractors working at Richards-Gebaur AFB to submit attribute and spatial data to the clearinghouse in electronic format. Be sure that all data generated are integrated into a single, coherent data base.
- Use the clearinghouse to distribute quality-assured data in standard formats (ASCII files and standard spatial data exchange formats) to parties with the need for a basewide perspective in activities at Richards-Gebaur AFB, including contractors, Air Force decision makers, and regulators.
- Once the disposal and reuse EIS and EBS studies are complete for Richards-Gebaur AFB, reuse parcels will be identified and the information system will be used to identify those areas that are suitable and unsuitable for transfer of deed.

6.2.2 Rationale

As the number of agencies and contractors associated with the Richards-Gebaur AFB environmental restoration program grows, it is important that all parties involved be able to share data for decision making. The establishment and maintenance of an electronic data base containing sampling, analytical, and spatial (e.g., real estate maps) data is the most efficient method of sharing data among parties.

6.2.3 Status

Data from the IRP Phase I Records Search and the Phase II confirmation/quantification for Richards-Gebaur AFB have been loaded into IRPIMS. The base does not have an automated comprehensive planning system but will prepare a contract to load the remaining historical data on the IRPIMS. To expedite site characterization tracking and data gap identification at Richards-Gebaur AFB, the RPM and Service Center Technical Project Manager (TPM) will ensure that:

- The historic documents will be classified into two categories:
 - IRPIMS data loading required
 - IRPIMS data loading not required
- The RPM will ensure that an explanation is provided for data in the second category. Examples are "Preliminary screening data of insufficient quality to support a DD," and "Superseded by more recent data of higher quality."
- Priorities for loading historical data into IRPIMS will be established, and contracts needed to proceed with data loading will be prepared.
- The RPM will ensure that data from future efforts are submitted electronically in accordance with the *IRPIMS Data Loading Handbook*.

- Environmental contamination data generated by the Richards-Gebaur AFB IRP are reviewed to determine whether the data should be loaded into the IRPIMS. Standard procedures for reviewing electronic data submitted by the contractor will be established. Preliminary procedures that will be followed include:
 - The RPM and TPM will review the IRPIMS data quality reports submitted by the IRPIMS contractor.
 - Use of IRPIMS and spatial analysis tools to rapidly create, maintain, and document conceptual models that illustrate target areas, sources, pathways, and receptors.

6.3 Data Gaps

This section summarizes unresolved issues pertaining to the determination and collection of data needed to complete the Richards-Gebaur AFB environmental restoration program.

6.3.1 Project Team Action Items

The Richards-Gebaur AFB Project Team will perform the following actions to ensure that data gaps are identified and filled as needed to conduct the Richards-Gebaur AFB environmental restoration program:

- Data for each IRP site at Richards-Gebaur AFB will be evaluated to identify data gaps.
- The base RPM will identify field sampling efforts needed to fill the data gaps.

6.3.2 Rationale

Effective identification and filling of data gaps will ensure timely restoration and facilitate the development of conceptual site models for risk assessment. Effective analysis of data gaps will also facilitate the timely completion of RI efforts so that ANSCs and target areas can be delineated.

6.3.3 Status/Strategy

The current status and strategies for identifying and filling data gaps are as follows:

- The RPM (or designee) will update and verify the current primary and secondary document bibliography for completeness. A bibliography of all letter reports will be completed and copies of these reports will be made available when the technical information they contain needs to be reviewed.
- Historical hard-copy data to be delivered to the Air Force will be reviewed for completeness with oversight by the RPM, and the data loaded into the IRPIMS using the *Historical Data Loading Tool*.
- Data will be consolidated from all contractors when the IRPIMS is initiated at Richards-Gebaur AFB.
- Project Team meetings will be used to resolve data gap issues as they are identified.

6.4 Background Levels

Background data from existing documents, including the United States Geological Survey (USGS), and from areas neighboring several IRP sites have been developed. These data have been used in the development of cleanup levels and for baseline risk assessments. Additional background

data will be generated, as needed, to develop remedial action plans and perform risk assessments for sites currently being evaluated.

6.4.1

Project Team Action Items

The Project Team will identify those sites that require additional study and definition of background concentrations of metals and organic compounds in soil and groundwater.

6.4.2

Rationale

Background concentration values of elements in soil, groundwater, surface water, and sediments need to be determined before risk assessments can be conducted. The values must be representative of what is naturally occurring.

6.4.3

Status/Strategy

The current status and strategies for determining background concentration values are as follows:

- The RPM will identify those sites requiring background concentration values.
- The IRP contractor will evaluate background values using samples that reflect naturally occurring levels of elements in various media.
- The RPM will determine background levels based on Project Team input.

6.5 Risk Assessment

This section summarizes unresolved issues pertaining to the completion of risk assessments required to complete the Richards-Gebaur AFB environmental restoration and associated compliance programs.

6.5.1 Project Team Action Items

The Richards-Gebaur AFB Project Team will perform the following actions to resolve issues associated with risk assessment at the IRP sites:

- Continue to evaluate the role of anticipated land use as a criterion in selecting assumptions in the exposure assessment.
- Review risk assessments of sites currently being characterized as necessary to determine the need to take remedial action and to help establish cleanup levels.

6.5.2 Rationale

Because land use affects the number and type of exposure pathways, anticipated or known land uses must be considered when making assumptions about exposure in risk assessments.

6.5.3 Status/Strategy

The strategy for resolving risk assessment issues is to develop risk assessment protocols for Richards-Gebaur AFB with agreement by MDNR. The base will proceed with risk assessments for sites known to require RA.

Appendix A
Fiscal Year Requirements/Costs

Table A-1. Funding Requirements by Fiscal Year for Environmental Restoration Activities^(a)

Site Name and Number	1981	1982	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Total
Off-base (FUDS) sites	31 PA	25 SI	185 SI													
North Burn Pit (FT-002)	4 PA	0 SI	26 SI	0	75 RII	2 RII	4 RII	57 RI2 IRA	3 IRA							
Oil Saturated Area (SS-003)	4 PA	0 SI	26 SI	0	75 RII	2 RII	4 RII	31 IRA	2 IRA							
Hazardous Waste Drum Storage (SS-004)	0	0	0	0	75 RII	2 RII	4 RII	31 IRA	2 IRA							
POL Storage Yard (ST-005)	0	0	0	0	149 RF1	5 RF1	8 RF1	123 RF2	2 RIc	600 RD/RA LTRO	20 RD/RA LTRO	20 RD/RA LTRO	20 RD/RA LTRO			947
Hazardous Material Drum Storage (SS-006)	0	0	0	0	75 PA	2 PA	4 PA	52 SI	0	70 IRA						203
Leaking UST (ST-007)	0	0	0	0	54 IRA	0	67 SI	0	0							121
Test Cell Area (SS-008)	0	0	0	0	0	0	0	0	0							
Fire Valve Area (SS-009)	0	0	0	0	0	0	0	0	0	300 RF1		200 RD/RA	20 RD/RA	20 RD/RA	20 LTRO	560
Total	39	25	237	0	503	13	91	294	9	1,050	70	220	40	20	20	2,631

Notes: (a) = In thousands of dollars
 LTRO = Long-term remedial operation
 RI1 = RI, phase 1
 RI2 = RI, phase 2
 RIc = RI, confirmatory sampling
 RF1 = RI/FS, phase 1
 RF2 = RI/FS, phase 2

Table A-2. Funding Requirements by Fiscal Year for Compliance Activities

Project Description	Fiscal Year				
	1992	1993	1994	1995	TOTAL
Hydrant piping system Assessment Remediation	25	300			325
Lead at firing range Assessment Cleanup		100	220		320
Oil/water separators Assessment/upgrade Removed/closure UST & oil/water separators			60 20		80
Detention pond Assessment Cleanup		80	300		380
Water course soil assessment		150			150
Hazardous waste disposal			150	80	230
Hazardous waste storage area Closure			80		80
TOTAL	25	630	830	80	1,565

Note: Cost in thousands.

Table A-3. IRP Cost Summary by Phase for Richards-Gebaur AFB

Year	PA/SI	RI/FS	RD	RA	IRA	LTO	LTM	DD	Total
1983	17.6								17.6
1984									
1985									
1986									
1987									
1988	176.6				10				186.6
1989									
1990									
1991	150.5	417.1							567.6
1992	124.3	173.7			64.3				362.3

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Appendix B

Table of Installation Environmental Restoration Documents

Table B-1. Richards-Gebaur AFB Technical Documents/Data Loading Status Summary

Page 1 of 2

Date	Title	Sites	Contractor	IRPIMS Status/Other
March 1983	Installation Restoration Program Records Search	1,2,3,4,5,6 (FT-002), 7,8,9 (SS-003)	CH2M Hill	Site data input completed 1992
July 1988 (Main Report) July 1988 (Supplement #1) September 1988 (Supplement #2)	Installation Restoration Program Phase II Confirmation/Quantification Stage 2	1,2,3,4,5,6 (FT-002), 7,8,9 (SS-003), 10 (SS-004), 12 (ST-005)	Ecology and Environment, Inc.	Site data input completed 1992
October 16, 1984	COE Sampling Report, POL Storage Yard	ST-005	Department of the Army, Missouri River Division, Corps of Engineers	IRPIMS input planned
May 1990	Decision Document for North Burn Pit Area	Site FT-002	Environmental Planning Division Headquarters, U.S. Air Force Reserve, Robins AFB, Georgia 31098-6001	Not Applicable
July 1990	Decision Document for Oil-Saturated Area	Site SS-003	Environmental Planning Division Headquarters, U.S. Air Force Reserve, Robins AFB, Georgia 31098-6001	Not Applicable
July 1990	Decision Document for Hazardous Waste Drum Storage Area	Site SS-004	Environmental Planning Division Headquarters, U.S. Air Force Reserve, Robins AFB, Georgia 31098-6001	Not Applicable
October 1991	Remedial Investigation: North Burn Pit Oil Saturated Area Hazardous Waste Drum Storage POL Storage Yard	6 (FT-002), 9 (SS-003), 10 (SS-004), 12 (ST-005)	O'Brien & Gere	IRPIMS input planned
October 1991	Preliminary Assessment for the Hazardous Material Storage Building 927	SS-006	O'Brien & Gere	IRPIMS input planned
November 14, 1991	Site Inspection ST-007 Report	ST-007 Leaking Underground Storage Tank (LUST)	Geraghty & Miller, Inc.	Data review planned for 1993, appropriate data input planned for 1993, 1994
December 1991	Decision Document for Leaking Underground Storage Tank	Site ST-007	Environmental Planning Division Headquarters, U.S. Air Force Reserve, Robins AFB, Georgia 31098-6001	Not Applicable

Table B-1. Richards-Gebaur AFB Technical Documents/Data Loading Status Summary
Page 2 of 2

Date	Title	Sites	Contractor	IRPIMS Status/Other
April 1992	Supplemental Remedial Investigation Report	FT-002 North Burn Pit	Burns & McDonnell	Data review planned for 1993, appropriate data input planned for 1993, 1994
April 1992	IRP Site Inspection	SS-006 Hazardous Material Storage Area	Burns & McDonnell	Data review planned for 1993, appropriate data input planned for 1993, 1994
September 1992	IRP Remedial Investigation	ST-005 POL Storage Yard	Burns & McDonnell	Data review planned for 1993, appropriate data input planned for 1993, 1994
October 1992	IRP Feasibility Study	ST-005 POL Storage Yard	Burns & McDonnell	Data review planned for 1993, appropriate data input planned for 1993, 1994
December 1993	Installation Restoration Program Phase II, Stage I Report		Water and Air Research	

Table B-2. Project Deliverables

Year	Phase	Project Title	Rpt. #	Sites Examined	Deliverable Date/By Whom
1983	PA	Records Search	1	1,2,3,4,5,FT-002,7,8,SS-003	March 1983/CH,M Hill
1988	Phase II Stage 2	Confirmation Quantification	2	1,2,3,4,5,FT-002,7,8,SS-003,SS-004,ST-005	July 1988/Ecology and Environment
1989	SI	Sampling Report		ST-005	October 1989/U.S. Army Corps of Engineers
1990	RI/RA	Decision Document	3	SS-003,SS-004,FT-002	May 1990/Environmental Planning (AFRES)
1991	RI	Remedial Investigation Report	4	SS-003, SS-004	July 1990/Environmental Planning (AFRES)
1991	RI	Remedial Investigation Report	4	FT-002,SS-003,SS-004,ST-005	October 1991/O'Brien and Gere
1991	PA	Preliminary Assessment	5	SS-006	October 1991/O'Brien and Gere
1991	SI	Site Investigation	6	ST-007	November 1991/Geraghty and Miller
1991	RI/RA	Decision Document	7	ST-007	December 1991/Environmental Planning (AFRES)
1992	RI	Supplemental RI Report	8	FT-002	April 1992/Burns and McDonnell
1992	RA/Closure	Draft Closure Report	9	SS-003,SS-004	May 1992/Burns and McDonnell
1992	RI	Remedial Investigation	10	ST-005	September 1992/Burns and McDonnell
1992	FS	Feasibility Study	11	ST-005	October 1992/Burns and McDonnell
1990	RI/RA	Decision Document	12	SS-003	December 1992/Environmental Planning (AFRES)
1992	RI/RA	Decision Document	13	SS-004	December 1992/Environmental Planning (AFRES)
1992	SI	Site Inspection		SS-006	April 1992/Burns & McDonnell

Table B-3. Historical Site Deliverables for Richards-Gebaur AFB

Description WIMS-ES	PA/SI	RI/FS	RD/RA	DD	Comments
South Landfill	1,2				COE Administered Environmental Restoration
Northeast Landfill	1,2				COE Administered Environmental Restoration
Contractor Rubble Burial Site	1				COE Administered Environmental Restoration
West Burn Pit	1				COE Administered Environmental Restoration
South Burn Pit	1				COE Administered Environmental Restoration
North Burn Pit	1,2	4,8		3	AF Administered Environmental Restoration
Radioactive Disposal Well	1				COE Administered Environmental Restoration
Herbicide Disposal Site	1,2				COE Administered Environmental Restoration
Oil-Saturated Area	1,2	4	9	12	AF Administered Environmental Restoration
Hazardous Waste Drum Storage	2	4	9	13	AF Administered Environmental Restoration
POL Storage Yard	2	4,10,11			
Hazardous Material Storage, Building 927	5				
Leaking UST	6			7	
Test Cell Area					SI planned for 1993
Fire Valve Area					

Note: Numbers shown above reference report numbers.

Appendix C

Decision Document/ROD Summaries

Appendix C

Decision Document/ROD Summaries

Richards-Gebaur Air Force Base has no decision document(s) for which remedial action was selected. However, the decision document for Site FT-002, which proposed no further action, was rejected by the state of Missouri. Decision document summaries will be prepared and inserted in this appendix at a later date.

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Appendix D

No Further Response Action Planned (NFRAP) Summaries

Appendix D

No Further Response Action Planned (NFRAP) Summaries

Site History Description

Richards-Gebaur Air Force Base (AFB) is a reserve base located in west-central Missouri, approximately 18 miles south of downtown Kansas City. The base is about 2.6 miles from the Kansas state line. The base is bounded by the city of Belton on the east and south, and is surrounded by Kansas City to the north and west. The base is not on the National Priorities List (NPL) and has not entered into a Federal Facility Agreement.

The base is located within the Osage Plains region of the Central Lowland physiographic province. The topography of Richards-Gebaur AFB is gently rolling with an average elevation of approximately 1,000 feet above mean sea level. All base drainage is located within the Little Blue River drainage basin, which ultimately flows to the Missouri River. Within this drainage basin, base storm water flow is generally toward Scope Creek, which runs south to north through the base. The geology of the base is characterized by thin loess over a soil derived from the weathering of underlying limestone and shale rock.

The land that is occupied by Richards-Gebaur AFB was acquired by Kansas City in 1941 for use as an auxiliary airport (Grandview Airport). Since 1952 the airport has been utilized by the Air Force and Air Force Reserve for air defense operations. Fire training activities, as well as aircraft and jet engine maintenance including metal plating and processing, have occurred on site. Both functions involve the use of fuels, solvents, and chemicals, and have generated municipal and chemical wastes.

Although Richards-Gebaur AFB is not on the NPL, the base has taken definitive actions to comply with the Air Force Installation Restoration Program (IRP) and the Defense State Memorandum of Agreement, which defines state and Air Force responsibilities during the IRP. Based on the remedial investigation studies conducted to date, the base has been designated as one operable unit (OU 1).

Site ST-007, December 1991

Site Background

The Leaking Underground Storage Tank site (Site ST-007) was used as an aircraft refueling station from 26 March 1954 until 1977. During operation of the system, no leaks were recorded during the fueling system's operational life. Between 1977 and October 1988, the fueling system was not needed and was not in use. In 1977, the jet fuel and tank vapors were removed to avoid an explosive hazard. Early in October 1988 the overlying building and underlying tanks were demolished and removed. This led to the discovery of discolored soil with a characteristically strong petroleum odor.

Site Investigative History

The base contacted the Missouri Department of Natural Resources for interim response guidance. Federal and state underground storage tank (UST) regulations were not effective at the time of discovery, so the base decided to install a passive remedial venting system to correct any environmental damage.

A site inspection was conducted in 1990 as a follow-up study to determine the effectiveness of the passive remedial system installed in early November 1988. A second follow-up study (14 November 1991) evaluated data from the previous study in conjunction with eight new soil samples and three groundwater samples. Samples were analyzed for leachate from eight Resource Conservation and Recovery Act (RCRA) metals and benzene, ethylbenzene, toluene, and xylenes using U.S. Environmental Protection Agency (U.S. EPA) method 8020 with no quality assurance/quality control (QA/QC) problems. Dissolved levels of barium, cadmium, and chromium were detected, but at levels well below the maximum contamination levels (MCLs) for drinking water. The only organic detected was xylene, but at levels well below Missouri's UST guidelines.

Based on data from the two studies, this site has no levels of contamination that exceed applicable or relevant and appropriate requirements (ARARs). Based on U.S. EPA risk assessment guidance, lifetime carcinogenic risk is well below U.S. EPA's action level.

Three alternatives were evaluated for this site: (1) no further action, (2) continue remedial system operations, and (3) long-term monitoring. The no further action alternative was chosen for the following reasons:

- The overall risk to human health and the environment is well below the U.S. EPA's action level.
- No detected parameter exceeds ARARs.
- This alternative is protective of human health and the environment.

Recommendation

Based on the success of the interim remedial efforts, site history, and lack of significant contamination at this site, the Air Force Reserve recommends that no further environmental action be taken at the Leaking Underground Storage Tank site (ST-007), located at Richards-Gebaur AFB.

Site SS-003, December 1992

Site Background

From 1955 until 1980, the Oil Saturated Area (Site SS-003) was used for storage of waste engine oils and waste transmission fluids originating from motor vehicle maintenance. During the operational period of this waste storage area, contamination originated from spillage due to waste transfer, overfilled drums, and leaking drums.

Site Investigative History

An IRP records search for Richards-Gebaur AFB was completed in March 1983. The Oil Saturated Area was identified as a potentially harmful site based on the visible oil-stained soils around the former storage area. No samples were collected at this time.

A Phase II Stage 2 confirmation/quantification study was completed in July 1988. The study concluded that a limited amount of contamination was present at the site.

A remedial investigation (RI) was conducted in 1990. The purpose of this study was to confirm previous results, determine lateral and vertical limits of contamination, and assess the risk posed by past waste disposal sites at Richards-Gebaur AFB. The RI concluded that hydrogeologic and geologic conditions limited the mobility of metals and other contaminants at this site and groundwater was not impacted. The study concluded that a limited amount of contamination was present in the soil at levels above recommended Missouri guidelines; however, the site posed no risk to human health (Lifetime Carcinogenic Risk of 5.86×10^{-10}).

An interim remedial action (IRA) was performed in 1992. The purpose of this study was to determine lateral and vertical limits of contamination, remove the limited quantity of contaminated soil to an off-site, state-licensed facility for permanent disposal, and confirm cleanup with proper sampling. The closure report concluded that the removal action achieved levels cleaner than those recommended in Missouri guidelines, and the site poses no risk to human health.

Recommendation

Based on the success of the interim remedial efforts, the Air Force Reserve is closing this site and will perform no additional work at the site known as Oil Saturated Area, SS-003, located at Richards-Gebaur AFB. The Air Force status of the site will henceforth be categorized as "No Further Response Action Planned" as defined within the IRP.

Site SS-004, December 1992

Site Background

The Hazardous Waste Drum Storage (Site SS-004) was used for an undetermined number of years to store drums containing waste prior to disposal. No hazardous materials have been stored in the area since 1985. The area was surfaced with asphalt subsequent to its abandonment. During the operational period of this waste storage area, soil contamination originated due to spillage from overfilled drums and leaking drums.

Site Investigative History

The Phase II Stage 2 confirmation/quantification study was completed in July 1988. The purpose of this study was to confirm or refute the presence of contaminants at the installation.

An RI was conducted in 1990. The purpose of this study was to confirm previous results, determine lateral and vertical limits of contamination, and assess the risk posed by past waste disposal sites at Richards-Gebaur AFB. The RI concluded that hydrogeologic and geologic conditions limited the mobility of metals and other contaminants at this site and groundwater was not impacted. The study concluded that a limited amount of contamination was present in the soil at levels above recommended Missouri guidelines; however, the site posed minimal risk to human health (Lifetime Carcinogenic Risk of 3.0×10^{-7}).

An IRA was performed in 1992. The purpose of this study was to determine lateral and vertical limits of contamination, remove the limited quantity of contaminated soil to an off-site, state-licensed facility for permanent disposal, and confirm cleanup with proper sampling. The closure report concluded that the removal action achieved levels cleaner than those recommended in Missouri guidelines, and the site poses no risk to human health.

Recommendation

Based on the success of the interim remedial efforts, the Air Force Reserve is closing this site and will perform no additional work at the site known as Hazardous Waste Drum Storage, SS-004, located at Richards-Gebaur AFB, Missouri. The Air Force status of the site will henceforth be categorized as "No Further Response Action Planned," as defined within the IRP.

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Appendix E
Conceptual Models

Appendix E

Conceptual Models

No Conceptual Site Models have been prepared. A Conceptual Site Model will be prepared and inserted in this appendix at a later date.

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